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Draft Environmental Impact Report

71 Stevenson Street

81.493E

Publication Date: October 15, 1982
Public Comment Period: October 15, 1982 through
November 18, 1982
Public Hearing Date: November 18, 1982

Written Comments should be sent to the
Environmental Review Officer:
450 McAllister Street, 5th floor, San Francisco, CA 94102

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I. SUMMARY

PROJECT DESCRIPTION

The project sponsor, Highfield Stevenson Partnership, proposes to construct a 23-story office building in the middle of the block bounded by Market, First, Mission and Second Sts. The project would front on Stevenson and Jessie Sts., two streets located in the interior of the block, and would be between Ecker and Anthony Sts., neither of which is continuous from Market St. to Mission St. The main entrance to the building would be from Stevenson St.; an additional entrance would be located on Jessie St. The project would contain about 365,200 gross sq. ft. of floor area including rooftop mechanical and basement parking areas. Floors two through 22 would contain 324,640 gross sq. ft. of office area. The ground floor would contain about 1,640 gross sq. ft. of retail area, and about 5,700 sq. ft. in elevator and lobby uses. The remainder of the ground floor would be used for loading space and a ramp to the subsurface parking garage. The building footprint of about 16,000 sq. ft. would cover 63% of the 24,710-sq.-ft. site; the remainder of the site would be a paved plaza encircling most of the building. The 23rd floor would contain mechanical equipment.

The project would contain three loading docks accessible from Jessie St., each with minimum dimensions of 35 ft. (deep) by 12 ft. (wide). Parking for 34 cars would be provided in a subsurface parking garage. Entrance to the parking garage would be from Stevenson St. to a ramp located northeast of the building's main pedestrian entrance.

The building would have the appearance of two towers offset from each other, and opposite corners of the building (west and east) would be rounded. The building's surface would be metal and glass panels, with non-reflective tinted glass on upper floors and clear glass at ground level. Facade colors have not been determined but would be light and medium in tone.

PROJECT EFFECTS

URBAN DESIGN, LAND USE AND VISUAL

The project would require demolition of two C-rated structures on the site, the 71 Stevenson St. Garage and the Hertzka Warehouse at 64 Jessie St. The project would comply with the basic use, height and bulk provisions of the City Planning Code and with the current moratorium on use of floor area bonuses for office buildings.

The project would not be visible in the City skyline. From most vantage points, it would not be visible because of taller, intervening structures. It would be visible from the south against a backdrop of taller buildings. The project would not obstruct any scenic views now available to the public; it would block some views to the south from neighboring buildings.

SHADOWS

The project would cast new shadows across the Chevron Garden Plaza in winter during morning hours (beginning sometime before 10:00 a.m.). By 11:00 a.m., the project's winter shadows would shade only a portion of this plaza; by noon, the project would not shade the Garden Plaza. A narrow shadow would fall on the Tishman Plaza at noon and would broaden by 1:00 p.m.; the later shadow would be limited to the elevated portion of the Tishman Plaza. By 2:00 p.m., only a small portion of this elevated area would be shaded.

In spring, the project would completely shade the Garden Plaza from 10:00 a.m. to 11:00 a.m.; by 12:00-1:00 p.m., only a small portion of the Plaza would still receive project shadows. A narrow shadow from the project would fall on the Tishman Plaza at noon, while at 1:00 p.m. the shadow would be broader, but would be limited to the elevated portion of the Tishman Plaza. By 2:00 p.m., only a small portion of this elevated area would be shaded.

At 10:00 a.m. in the summer, project shadows would fall on a portion of the Chevron Garden Plaza. At 11:00 a.m., a larger portion of the plaza would be shaded. At noon, the project would cast a shortened shadow on the southerly

half of the Garden Plaza. After 12:00 p.m., the project would not shade either of the plazas in summer. The project would intercept the path of the sun at points northwest of the project site during morning hours.

EMPLOYMENT, HOUSING AND FISCAL

Revenues to the General Fund from the project would total $1.1 million annually in property and other taxes, 18 times the revenues generated by existing site uses. The estimated project-generated annual subsidy requirement of Muni would be $70,100.

The project would result in the demolition of a parking garage with 300 spaces and a warehouse of 20,770 gross sq. ft., displacing five employees. About 1,325 persons would be employed in the project, a net increase in employment of 1,320 jobs. Estimated housing demand attributable to the project would be 289 units.

TRANSPORTATION

The project would generate directly about 940 person trips in the p.m. peak hour, 250 of which would be on Muni and 310 of which would be by auto. The remainder would be primarily on other public transit systems. By the year of project completion (1985), additional parking facilities would be essentially unavailable to absorb the demand in the project area. Consequently, some of the project drivers parking in the City would displace other parkers, resulting in a greater total increase in p.m. peak-hour transit ridership and ridesharing. The project would result in about 700 pedestrian person trips during the p.m. peak hour, about 200 on Jessie St. and about 500 on Stevenson St. At the midday peak hour, the project would increase pedestrian traffic on Stevenson St. by about 400 pedestrians, an increase of 50%; the increase could be accommodated on that street. Cumulative downtown development, including the project, would put crosswalks at Mission and First Sts. at 100% of capacity at the p.m. peak hour. Project-related pedestrian traffic plus pedestrian traffic generated from the Ecker Square Building, presently under construction at the corner of Ecker and Jessie Sts., would account for a 15% increase at these crosswalks, constituting roughly 5% to 10% of total projected p.m. peak-hour pedestrian traffic in 1985.

ENERGY, OPERATIONAL AIR QUALITY AND CONSTRUCTION NOISE

Annual electrical energy consumption at the project would be 7.6 million kilowatt hours; annual natural gas consumption would be 5.7 million cubic ft. Total annual energy consumption would be 84 billion Btu, a net increase of 83 billion Btu over existing energy consumption at the site. Air quality effects of the project would be primarily transportation-related. The project would not result in any violation of standards. Increases in traffic from cumulative downtown development could impede attainment of standards for some pollutants.

Construction activities would temporarily increase noise and vibration levels in the area of the site; noise would reach 65-70 dBA in nearby buildings. Piledriving, which would last about 4 weeks, would produce noise levels of 100 dBA at 100 ft. from the site (80-85 dBA in adjacent buildings and those directly across Stevenson and Jessie Sts. from the site) and would also cause the greatest amount of vibration. If it occurred, concurrent construction of other proposed projects in the immediate vicinity of the site would compound construction noise and vibration effects. Night work would reduce effects on most uses in the area; however, Golden Gate University, across Jessie St. east of the site, is open at night and on weekends, as well as during the day. Construction activities could adversely effect users of the University primarily during the period of piledriving.

MAJOR MITIGATION MEASURES

Mitigation measures proposed as part of the project include:

Urban Design

- The project would be set in from property lines at all sides and would have rounded corners on the northwest and southeast. The effect would be to minimize shadows and allow the creation of a ground floor plaza and pedestrian passage between Stevenson and Jessie Sts.

Housing

- The project sponsor would provide 289 housing units or the equivalent under the Office Housing Production guidelines.

Transportation

- The sponsor would contribute to Muni under Ordinance 224-81, if upheld, or any other lawful measures passed by the Board of Supervisors to mitigate the effect of incremental demand on Muni services from the project upon completion.

- A transportation broker would be designated to develop and implement a transportation management program.

Construction Noise

- Holes for piles would be pre-augered, if possible, to reduce noise impacts.

ALTERNATIVES TO THE PROPOSED PROJECT

The following alternatives to the proposed project are discussed in Section VII. of this report:

A. No project.

B. The project as proposed, but with no on-site parking.

C. Provision of an office project conforming to regulations proposed in Guiding Downtown Development.

D. Provision of a mixed office/housing project conforming to regulations proposed in Guiding Downtown Development.

II. PROJECT DESCRIPTION

SPONSOR'S OBJECTIVES

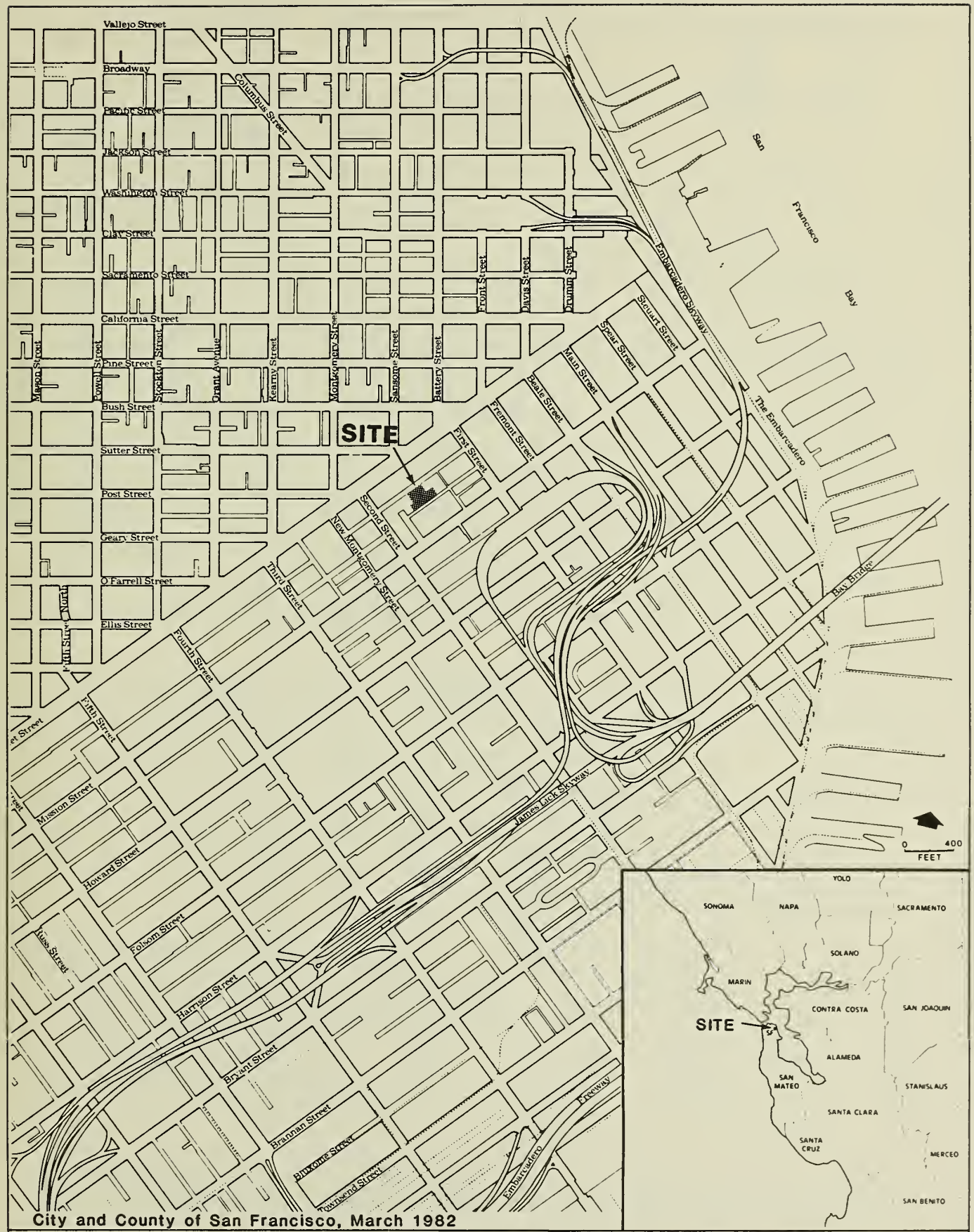
Highfield Stevenson Partnership, a subsidiary of Highfield Corporation, Ltd., a Canadian corporation based in Vancouver, British Columbia, proposes to construct a 23-story office building in downtown San Francisco, near the Transbay Transit Terminal. The project is intended to provide an office tower of the highest quality design in response to current demand for new office space in the Financial District, and particularly in the South of Market area. Project architects are Gensler and Associates of San Francisco, California.

PROJECT LOCATION

The project site is located on Assessor's Block 3708, bounded by Market, First, Mission and Second Sts. (see Figures 1 and 2, pp. 7 and 8). The 24,710-sq.-ft. project site consists of Lot 28, which fronts on Stevenson and Jessie Sts. (two of the several small streets which cut through the block), and Lot 29, which fronts on Jessie St. The site is between Anthony and Ecker Sts., neither of which is continuous from Market St. to Mission St. The site is in the C-3-O Downtown Office District and the 700-I Height and Bulk District, as classified by the City Planning Code.

Two buildings are on the site: a parking garage at 71 Stevenson St. and the Hertzka Warehouse at 64 Jessie St. The identities of major buildings in the vicinity of the site are shown in Figure 2, p. 8.

The site is less than one block from the Transbay Transit Terminal, which serves commuter buses from the East Bay, North Bay and Peninsula and interregional buses of Continental Trailways Systems. The site is half a block away from Market St., which functions as a major public transit



SOURCE: Environmental Science Associates, Inc.

FIGURE 1: Project Location

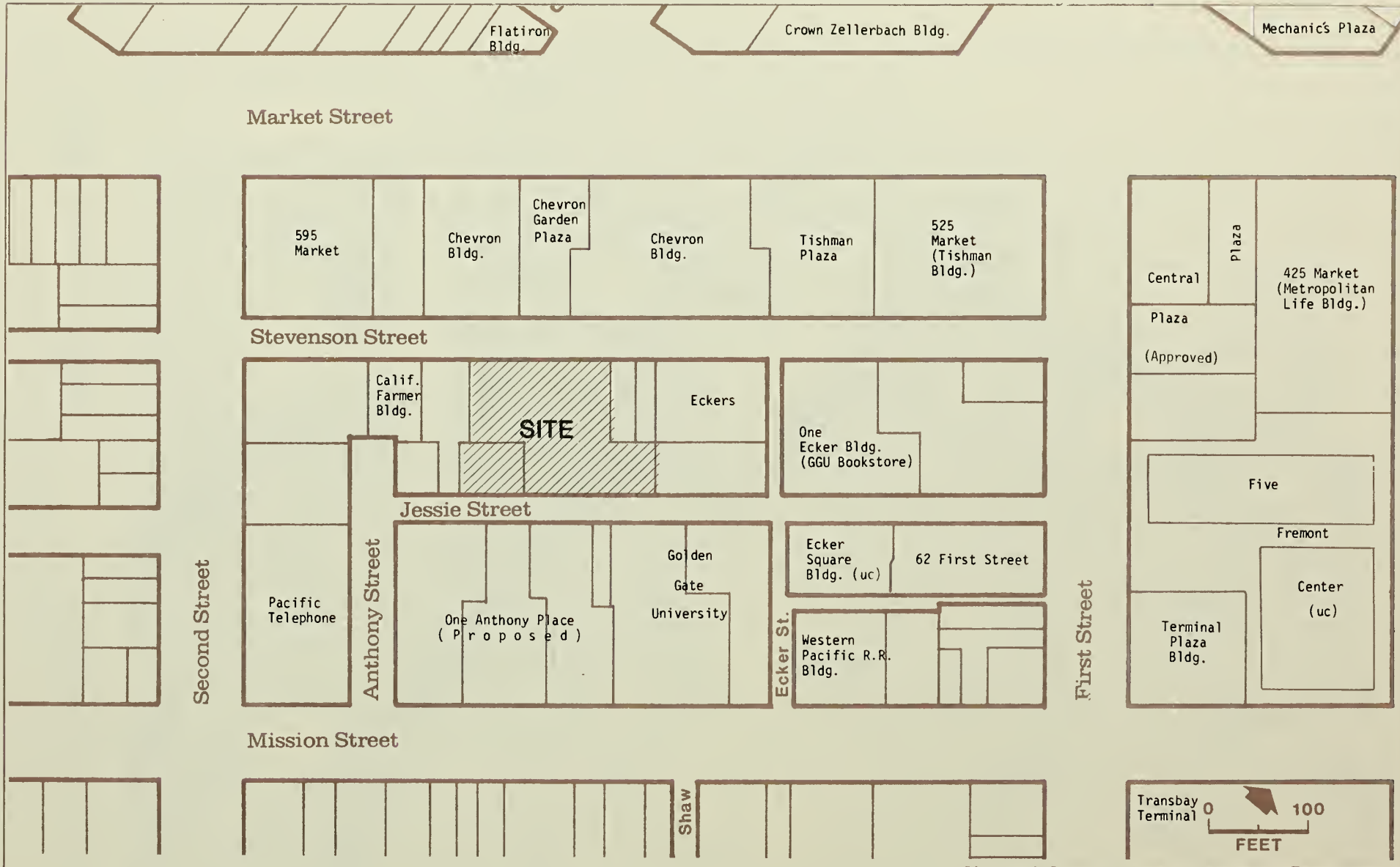


FIGURE 2: Project Site and Vicinity

SOURCE: Environmental Science Associates, Inc.

corridor, and less than one block from the Montgomery St. BART/Muni-Metro Subway Station.

PROJECT DESIGN

The project would consist of an off-set tower scheme in which the building massing would be arranged in two unequal portions; the larger portion would rise the equivalent of two floors above the smaller portion to accommodate the mechanical space. Two opposite corners of the building would be rounded (the northwest and southeast corners) to minimize view obstruction from nearby buildings and shadowing of nearby plazas (see Figures 3 and 4, pp. 10 and 11). The 23-story office building would rise to a maximum height of 324 ft. above street level. The structure would be set back from the lot lines, covering approximately 63% of the site with a building footprint of about 16,000 sq. ft. The project would contain about 365,200 gross sq. ft. Table 1 lists the project's proposed floor areas.

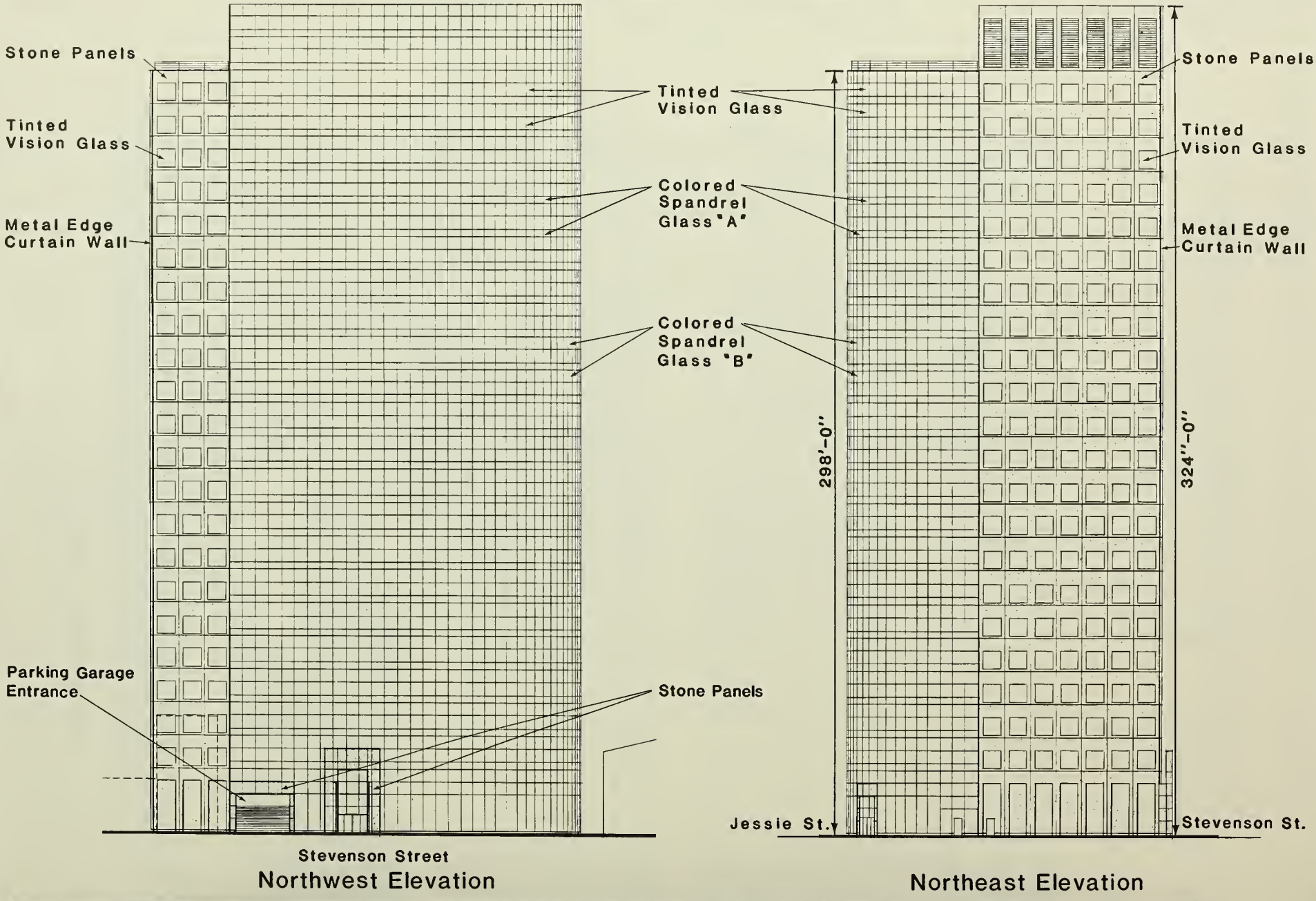
The building entrance would be on Stevenson St. (see Figure 5, p. 12); it would be defined by polished stone columns set on each side of the entry, with a polished stone lintel topping the columns.

TABLE 1: PROPOSED FLOOR AREAS (in sq. ft.)

	Actual Gross Area	FAR Gross Area*
Basement (parking and mechanical)	20,456	-
Ground Floor (1,635 sq. ft. retail; 5,688 sq. ft. lobby, elevators 3,554 sq. ft. loading and parking ramp)	10,877	7,323
2nd through 22nd Floors (15,459 sq. ft. each)	324,639	324,639
23rd Floor (Mechanical Penthouse	4,648	-
TOTAL	360,620	331,962

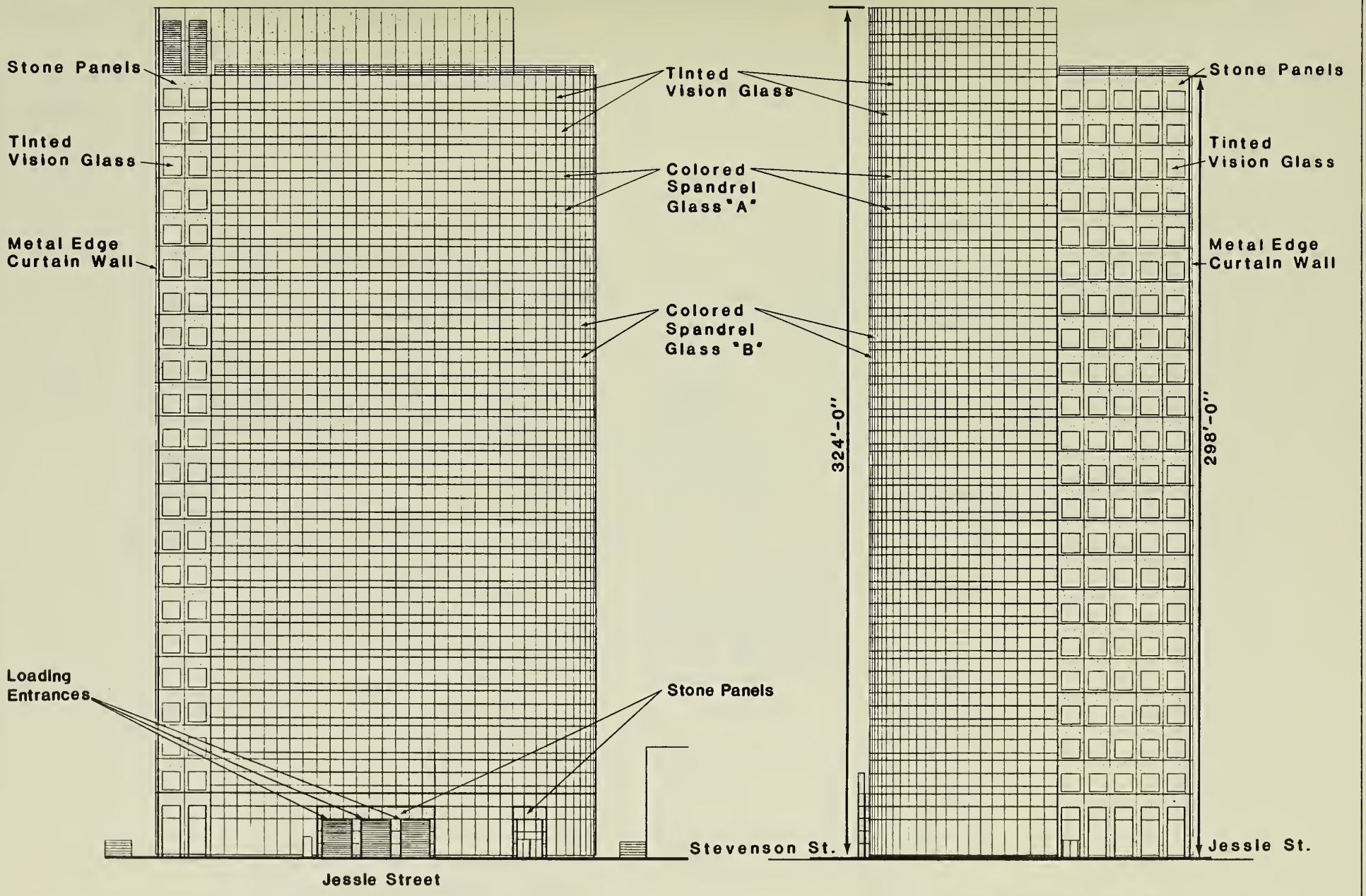
*FAR means Floor Area Ratio. It is the ratio of the gross sq. ft. of floor area, as defined by Planning Code Section 102.8, to the sq. ft. of the site area. Mechanical space and accessory parking are exempt from FAR calculations.

SOURCE: Gensler and Associates, Architects.



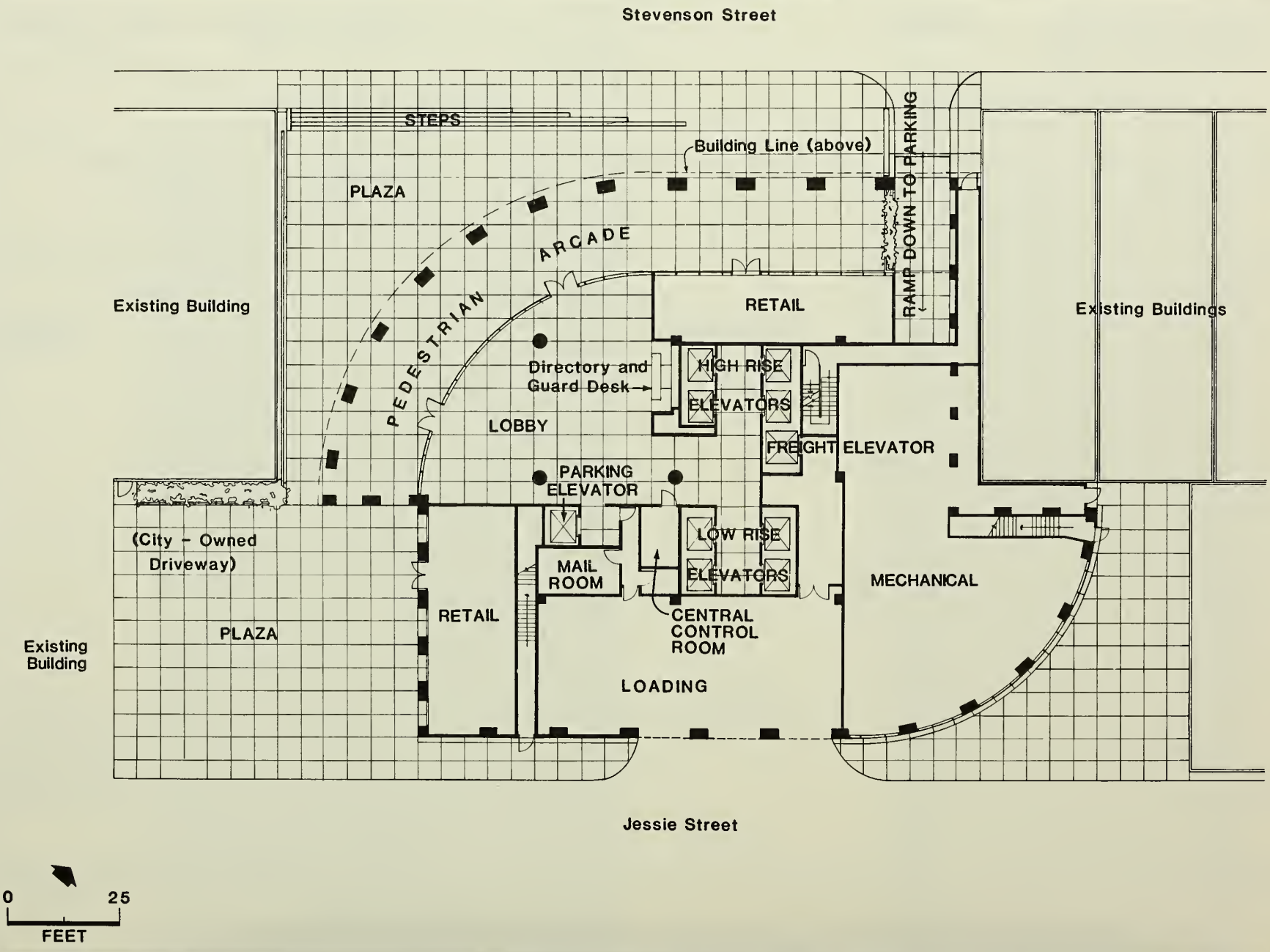
SOURCE: Gensler & Associates, Architects

FIGURE 3: Elevations of the Project



SOURCE: Gensler & Associates, Architects

FIGURE 4: Elevations of the Project



SOURCE: Gensler & Associates, Architects

FIGURE 5: Ground Floor Plan

A second entrance would be located at the south corner of the building off the plaza on the Jessie St. frontage. Loading dock facilities would be located on Jessie St.; three truck stalls, each 35 ft. deep by 12 ft. wide (minimum dimensions), would be provided. Vehicular access to the project's parking garage would be on Stevenson St.; a two-way ramp would lead down to a 34-space parking level (see Figure 6, p. 14).

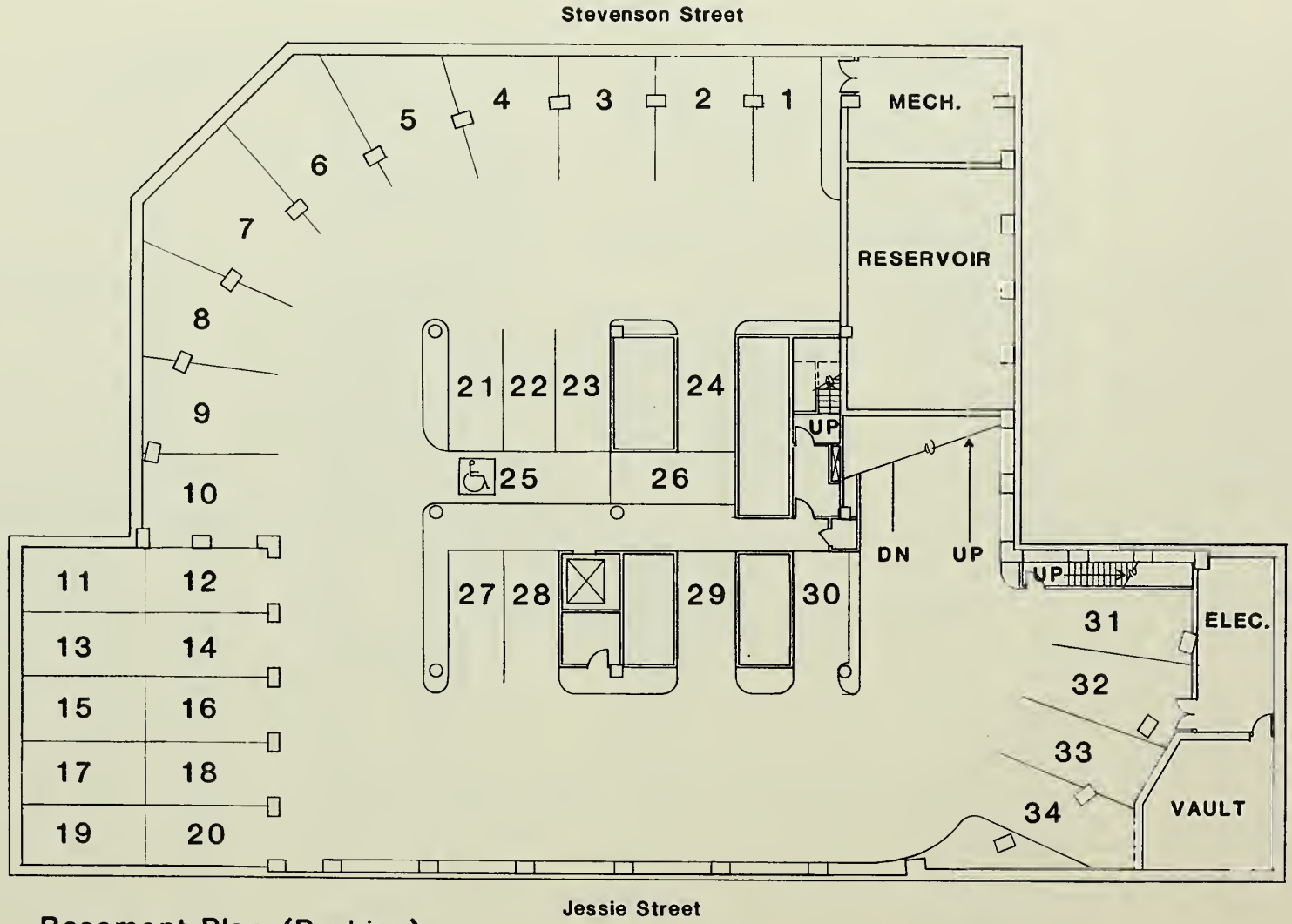
The ground floor would contain retail space and the building lobby. A pedestrian arcade would connect the Jessie St. entrance with the main building entrance on Stevenson St. Office space would be located on floors two through 22 (see Figure 7, p. 15). The 23rd floor would contain mechanical space.

The building exterior would consist of a glass curtain wall and painted metal panels panels (see Figures 3 and 4, pp. 10 and 11). The coloring of the building has not been determined except that it would be of shades medium to light in value. The curtain wall would contain colored glass spandrels of alternating light and medium tones. Tinted, non-reflective vision glass would be used in all windows above the first floor. Clear glass would be used at the ground level.

Plazas would be located on three sides of the building (on the east and west sides of the building on Jessie St. and on the west side on Stevenson St.) They would be surfaced in decorative pavement with a pattern. Street trees would be planted at intervals of 20 ft. along the Stevenson St. frontage (as required by the planning code). Artwork is being considered for the plaza space.

PROJECT SCHEDULE, COST AND REQUIRED ACTIONS

Environmental review and project design are scheduled by the project sponsor to be completed by early 1983. Following approval of permits, site clearance and excavation would require about 10 weeks, foundations about 10 weeks, building construction about 42 weeks and finishing about 41 weeks. The construction period would last about two years and initial occupancy is projected for December 1984 with full occupancy in early 1985. Construction costs are estimated at $29.5 million.

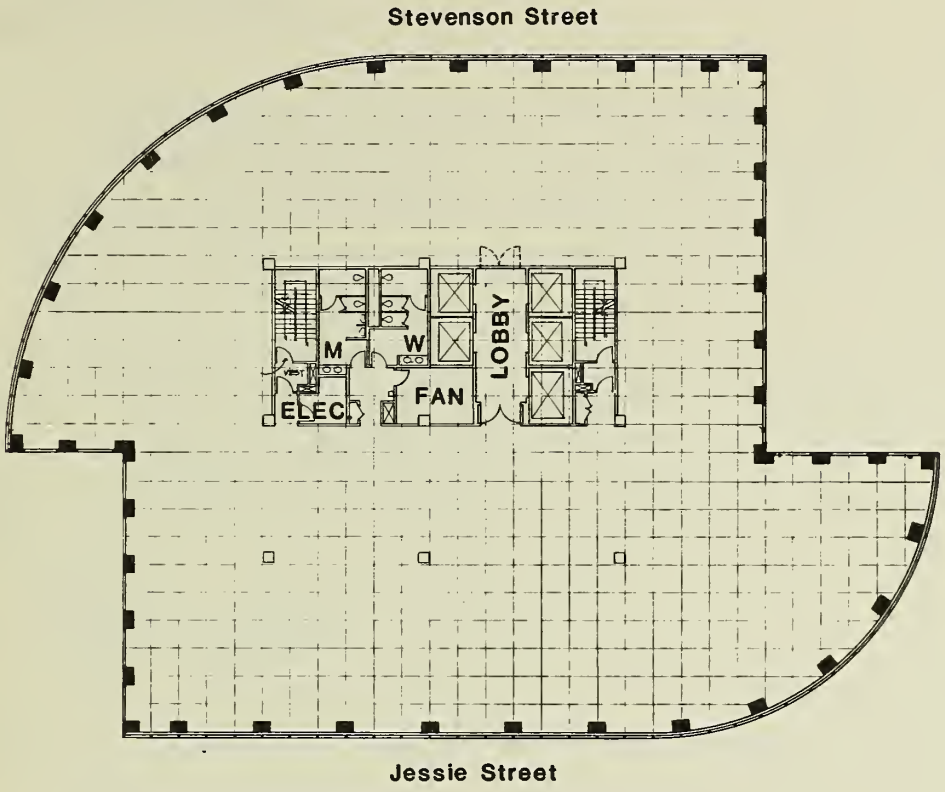


Basement Plan (Parking)

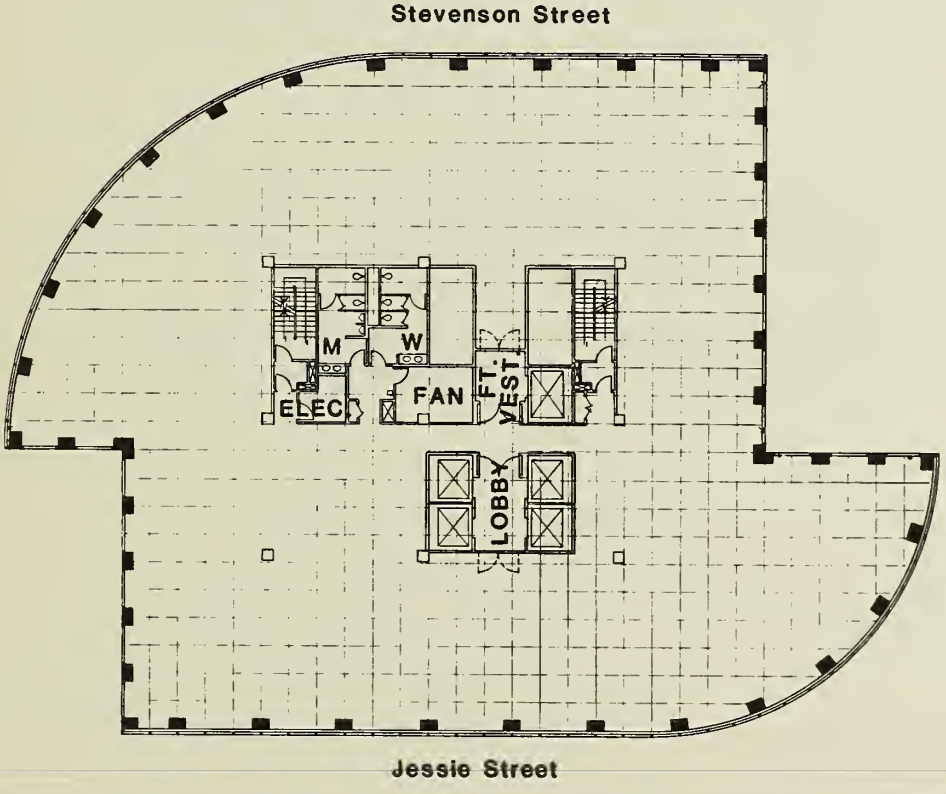
0 20
FEET

SOURCE: Gensler & Associates, Architects

FIGURE 6: Basement Plan



Typical High-Rise
Floor Plan (13-22)



Typical Low-Rise
Floor Plan (3-12)

0 35
FEET

FIGURE 7: Typical Low-Rise and
High-Rise Floor Plans

SOURCE: Gensler and Associates, Architects

The project complies with use, height and bulk provisions of the Interim Controls/1/ of the City Planning Code currently in effect, and thus would require no variances or conditional use permits. The City Planning Commission will review and certify the Environmental Impact Report if determined complete and accurate. On January 17, 1980, the City Planning Commission established a policy of Discretionary Review of development proposals for new construction or alterations which would result in increased floor area in the Interim Downtown Special Use District during the interim moratorium on the use of floor area bonuses./2/ Under this policy, the Commission will review the project design and its environmental context in detail, and adopt a resolution approving, approving with conditions, or disapproving the project. Mitigation measures included in the EIR can be used as conditions for approval of the project. Should approval be granted by the City Planning Commission, or by the Board of Permit Appeals on appeal, the project sponsor would obtain a demolition permit from the Central Permit Bureau of the Department of Public Works, followed by a building permit or permits administratively approved for compliance with fire, electrical, building and other pertinent City codes.

NOTES - Project Description

/1/ San Francisco Board of Supervisors, City Ordinance No. 240-80 amending section 126 of the Planning Code, adopted July 1, 1980, with Board action to continue current interim controls to March 1982 (Board file 123-81-2). This ordinance prohibits development bonuses for office use.

/2/ San Francisco City Planning Commission, Resolution No. 8474, adopted January 17, 1980, and extended by Resolution No. 8982, adopted June 4, 1981.

III. ENVIRONMENTAL SETTING

Land use and zoning considerations, while not considered to be areas of potential impact of the project, are included in the setting section of the report to provide information on the location and surroundings of the project site.

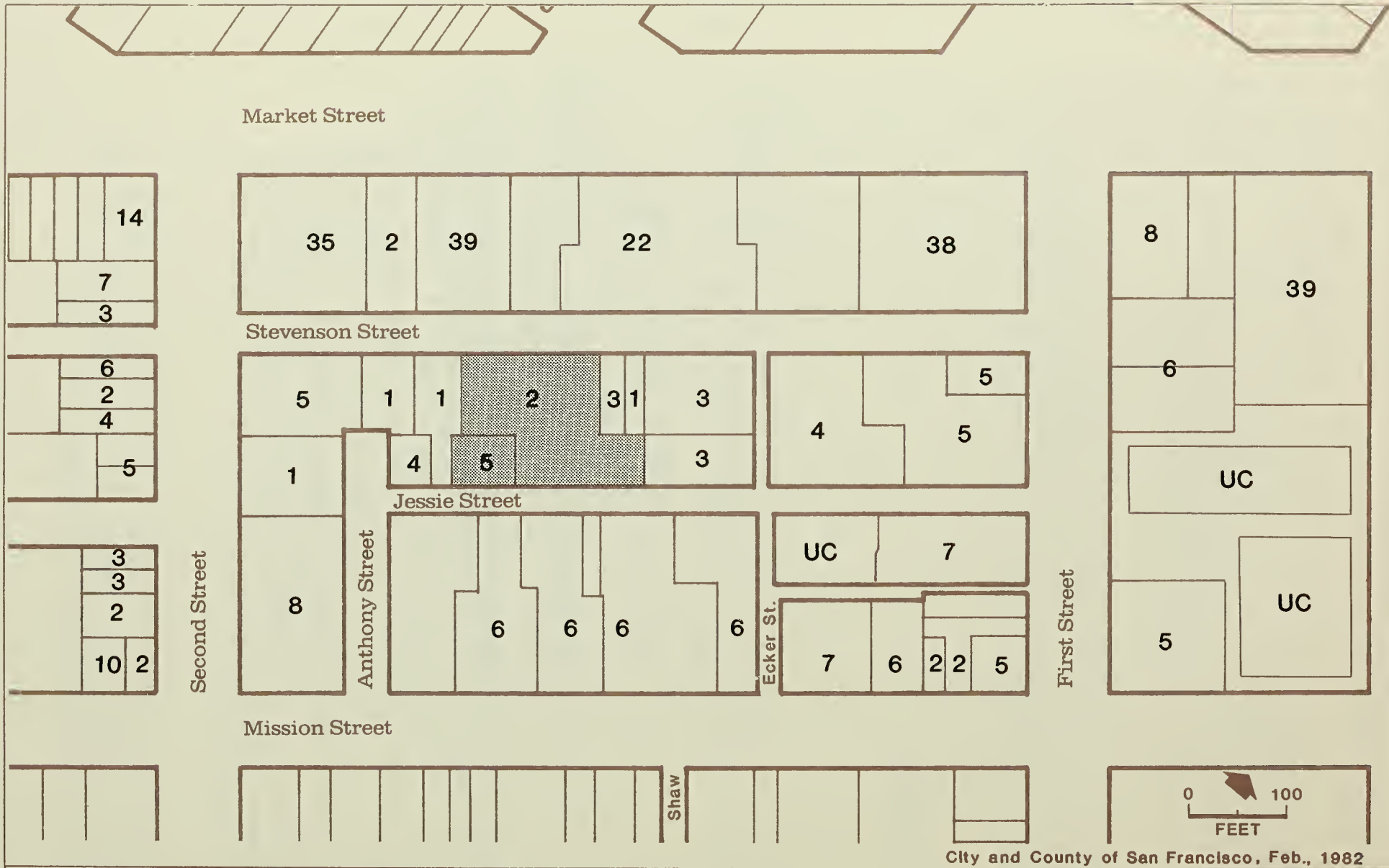
A. LAND USE AND ZONING

LAND USE

The project site contains about 24,710 sq. ft. Existing buildings on the site include a five-story warehouse at 64 Jessie St. and a two-story parking garage at 71 Stevenson St. The warehouse contains about 20,770 sq. ft. and is currently vacant. The parking garage contains approximately 61,700 sq. ft. and about 300 parking spaces. Both site buildings are built to lot lines.

Predominant land uses in the project vicinity consist of office, retail and various service and educational uses. Newer high-rise office development is located northerly of the site across Stevenson St. It includes the 35-story 595 Market St. Building, the 39- and 22-story Standard Oil Buildings (575-573 Market St.) and the 38-story Tishman Building (525 Market St.). In addition, several high-rise office buildings are currently under construction near the project site: the 43-story Five Fremont Center at Mission and Fremont Sts., and the 18-story Ecker Square Building at Jessie and Ecker Sts. A 30-story building, One Anthony Court, is proposed south of the project site at the corner of Anthony Place and Mission St. Building heights on and near the project site are shown in Figure 8, p. 18.

Office above ground-floor retail activities; printers and other business support services; and Golden Gate University and its related activities are the primary uses occurring southerly of the project site. These uses are



LEGEND

Numbers indicate Building Heights in Stories

UC Under Construction

Project Site

FIGURE 8: Building Heights Near the Project Site

SOURCE: Environmental Science Associates, Inc.

generally housed in older buildings ranging from two to eight stories in height.

Cumulative Office Development Downtown

Existing office space in San Francisco totals about 57.2 million gross sq. ft. (see Appendix A, Table A-1, p. 141). About 7.8 million gross sq. ft. of office space is currently under construction. About 5.4 million gross sq. ft. has been formally approved but is not yet under construction, and an additional 4.2 million gross sq. ft. of office space is under formal review. Together these total 17.4 million gross sq. ft. of new office space. About 1.3 million gross sq. ft. of existing office space has been or is proposed to be demolished to clear the sites for these office developments. This results in a net addition of 16.1 million gross sq. ft. of new office space in Downtown San Francisco. For analysis purposes, the 16.1 million gross sq. ft. of net new space is used, for it refers to the amount of new construction in excess of existing space on each site in terms of gross sq. ft. of floor space. If these projects were all completed, San Francisco would have a total of approximately 73 million sq. ft. of office space.

The above numbers and the cumulative analyses in this report are based on a list of office buildings, prepared by the Department of City Planning, which on August 6, 1982 were in one of three categories: 1) under formal review by the Department of City Planning; 2) approved but not yet under construction; and 3) under construction. These buildings and the total sq. ft. of office and retail space in each category are listed in Appendix A, Tables A-2 and A-3, pp. 143-146.

The cumulative list contains only those buildings which are, or have been, formally under review by the Department of City Planning and the Department of Public Works, or for which plans are well defined. Not included are projects which are in an early planning stage but for which details as to types of use and floor areas of office and retail space are not available. Thus excluded are buildings in the Yerba Buena Center Redevelopment Area, Mission Bay of the Southern Pacific Land Company, the Rincon Hill-South Beach Redevelopment Area, and unfunded State and Federal office building proposals. The cumulative list

does contain those office buildings in the Yerba Buena Center Redevelopment Area which are under construction or for which Land Disposition Agreements have been approved, and which have definitely identified floor area figures. The San Francisco Redevelopment Agency is currently considering a range of additional amounts of office space, but the nature and scale, including floor area, are tentative and uncertain. Therefore, potential office space in Yerba Buena Center is not included. The general basis for future development will be in accordance with the Yerba Buena Center Redevelopment Plan as amended. Hotel projects have not been included in the cumulative analyses because hotel uses have different peaking characteristics from office buildings and generally do not significantly affect peak-hour traffic or transit. The reason for this methodology is more fully explained in Appendix D, p. 158.

The totals indicated in Table A-3 may differ from those shown in earlier EIRs as they are based on the status of projects as of August 6, 1982. Some projects included in earlier totals have been removed from the cumulative impact analyses because they have been withdrawn from formal review or for other reasons of inactivity. On the other hand, some projects not included in earlier totals have been added to the cumulative totals because they have been activated. In sum, the lists used for the cumulative analyses in this report represent to the extent practicable the most current official record of office buildings completed, in progress, or in the review process.

This discussion of cumulative development describes in static terms a fluid situation. The environmental setting is in a constant state of flux and transition.

ZONING

The City Planning Code zoning classification for the site is C-3-O (Downtown Office District) (see Figure 9, p. 21). Office and retail uses are permitted in this zoning district with a basic Floor Area Ratio (FAR) of 14 to 1/1/ (i.e., a building may have a floor area up to 14 times the area of its site). There is currently a moratorium on the use of development bonuses to increase office floor areas./2/

LEGEND

P	Public Use Districts
C-3-O	Downtown Business Districts
C-3-S	Downtown Support District
	Zoning District Boundary

FIGURE 9: Planning Code Use Districts on Site and in Vicinity

SOURCE: San Francisco City Planning Code

The project site is in the 700-I Planning Code Height and Bulk District, in which the maximum permitted height is 700 ft., the maximum permitted facade length is 170 ft. and the maximum horizontal diagonal dimension above a height of 150 ft. is 200 ft. (see Figure 10, p. 23).

Off-street parking is not required by the Code in the C-3-O District: up to 7% of the gross floor area of a building may be devoted to parking as an accessory use./3/ Street trees are required by the Code in the C-3-O District and must be installed at a minimum of 20 ft. intervals along all street frontage of the property lines. Trees can be located either within a set-back area on the lot or within the public right-of-way along the lot. This requirement may be modified or waived if it is determined that the sidewalk is of inadequate width, trees would interfere with utilities, or there are other reasons regarding the public welfare, or where installation is impractical./4/

NOTES - Land Use and Zoning

/1/ Section 124, City Planning Code. Types of floor uses included in the calculation of Floor Area for FAR purposes are defined therein.

/2/ Development bonuses are specified in Section 126, City Planning Code; the moratorium on their use was adopted by the San Francisco Board of Supervisors, Ordinance No. 240-80 amending Section 126, July 1, 1980.

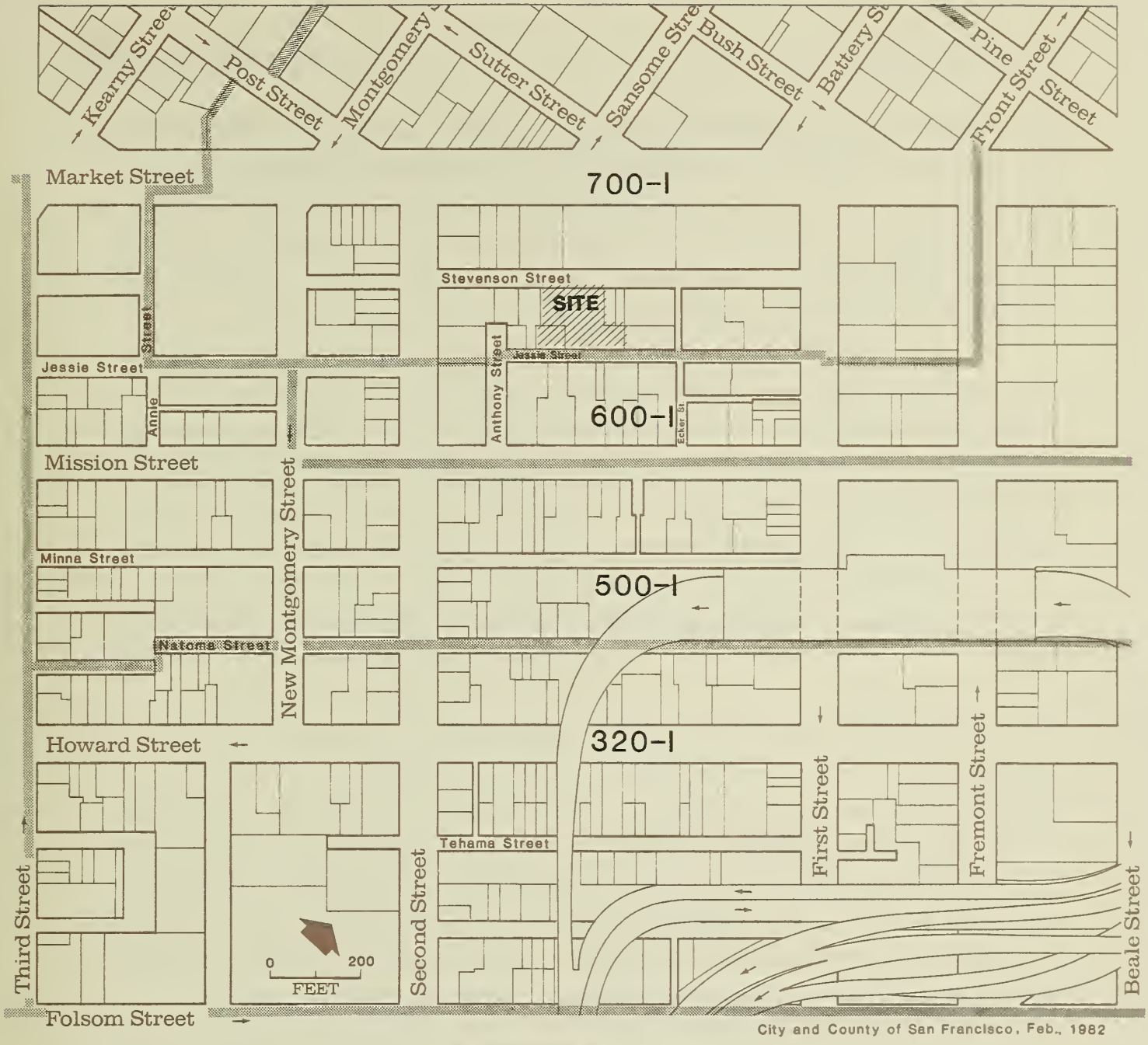
/3/ Section 204.5(c), City Planning Code.

/4/ Section 143, City Planning Code.

B. ARCHITECTURAL RESOURCES AND URBAN DESIGN

ARCHITECTURAL RESOURCES

The project site contains two buildings (the Hertzka Warehouse at 64 Jessie St./1/ and a parking garage at 71 Stevenson St.), both of which were rated "C" in an architectural and historical resource survey of the downtown area conducted by the Foundation for San Francisco's Architectural Heritage ("Heritage"). This survey rated buildings from a high of "A" to a low of "D" (see Appendix B, p. 148). Buildings rated "C" are recognized (by Heritage) to be of contextual importance; these buildings "are distinguished by their



LEGEND

HEIGHT AND BULK DISTRICTS	HEIGHT LIMIT	HEIGHT ABOVE WHICH MAXIMUM DIMENSIONS APPLY	MAXIMUM PLAN DIMENSIONS	
			LENGTH	DIAGONAL DIMENSION
700-I	700′	150′	170′	200′
600-I	600′	150′	170′	200′
500-I	500′	150′	170′	200′
320-I	320′	150′	170′	200′

Height and Bulk District Boundary

SOURCE: San Francisco City Planning Code

FIGURE 10:
Planning Code Height and Bulk Districts on Site and in Vicinity

scale, materials, compositional treatment, cornice and other features."/2/ Such buildings establish the setting for more important buildings and add visual diversity and architectural character to the downtown area. Neither of these buildings was included in a city-wide inventory of architectural resources conducted by the Department of City Planning (DCP) in 1976 (see Appendix B, p. 148, for an explanation of the evaluation system).

The five-story warehouse at 64 Jessie St. was built in 1924. It is constructed of reinforced concrete, with skeletal articulation of the Jessie St. facade (this refers to a functional, unornamented facade design which reflects structural components of the building). The parking garage at 71 Stevenson St. is a two-story structure of reinforced concrete and brick; it was built in 1923. Both of these structures represent typical industrial buildings that were constructed in the South of Market area between 1900 and 1925.

The project block contains three "B" rated buildings and one "A" rated building (two of these buildings are included in the Department of City Planning inventory). The Wells Fargo Building at 71 Second St., rated "A" by the Heritage Survey and "3" by the DCP Inventory, was designed by Meyers and Ward and built in 1902. The building was damaged in 1906 and rebuilt with an additional two stories. The eight-story building represented an early example of fire-proof construction for its time. It is of steel frame construction with cinder concrete cladding; the two-story base is clad in granite.

The Chancery Building at 562 Mission St. is rated "B" by the Heritage Survey; it is not listed in the DCP Inventory. The six-story building was built in 1919 and represents the earliest known example of mushroom column drop panel construction, an important breakthrough in reinforced concrete design. (Mushroom columns are supporting columns which are thicker at the top than at the bottom.) It is of reinforced concrete construction with Renaissance/ Baroque ornamentation.

One Ecker, at 16 Jessie St., is rated "B" by the Heritage Survey; it is not listed in the DCP Inventory. It is a four-story building of brick

construction with iron posts. This warehouse building was constructed in 1906, and renovated for retail/office use in 1972.

The California Farmer Building, at 83 Stevenson St., is rated "B" by the Heritage Survey and "1" by the DCP Inventory. It was designed by Willis Polk and constructed in 1908. The structure was originally used as a post office. It is of brick construction with Renaissance/Baroque ornamentation. The single-story building has a pedimented temple front with five large arched windows equally distributed across the street facade. An iron eagle tops the peak of the pediment.

Figure 11, p. 26, identifies these and other buildings in the project vicinity that are included on the list of Architecturally and/or Historically Significant Buildings in the C-3 District adopted by the City Planning Commission (Resolution 8600, May 29, 1980).

URBAN DESIGN

The project site is in an area that functions as a visual transition between the large-scale, new construction that has occurred northerly of the site across Stevenson St. and the more moderate-scale, older development that exists adjacent to and southerly of the site (see Figures 12-14, pp. 27-29). The high-rise office development located along the blocks that front the south side of Market St. establishes a strong edge which defines the boundary of the Financial District. Frequently these high-rise buildings are set back from lot lines, with landscaped plazas occupying the unbuilt portions of the site. Building surface materials usually consist of metal, glass, stone and concrete, which create smooth-surfaced facades.

The blocks south of Market in the downtown are about four times the size of blocks north of Market St.; the south of Market blocks are often intersected by a network of narrow mid-block streets and alleys that provide through-block access for pedestrians and vehicles. The buildings tend to be built up to lot lines (maintaining a continuous facade line) and constructed of brick and reinforced concrete.

City and County of San Francisco, Feb., 1982

LEGEND

NO.	BUILDING
1	64 Jessie St.
2	71 Stevenson St.
3	California Farmer Bldg. 83 Stevenson St.
4	Wells Fargo Bldg. 71 Second St.
5	Golden Gate University Law Library 562 Mission St.
6	One Ecker 16 Jessie St.
7	549 Mission St.
8	Santa Fe Bldg. 601 Market St.
9	Hoffman Grill*
	619 Market St.
10	Schwabacher Bldg. 20 Second St.
11	Blake, Moffit & Towne Bldg. 41 First St.
12	Sheldon Bldg. 9 First St.
13	Terminal Plaza Bldg. 440 Mission St.
14	Transbay Terminal

* City Landmark

RATINGS

HERITAGE / OCP

A / 3

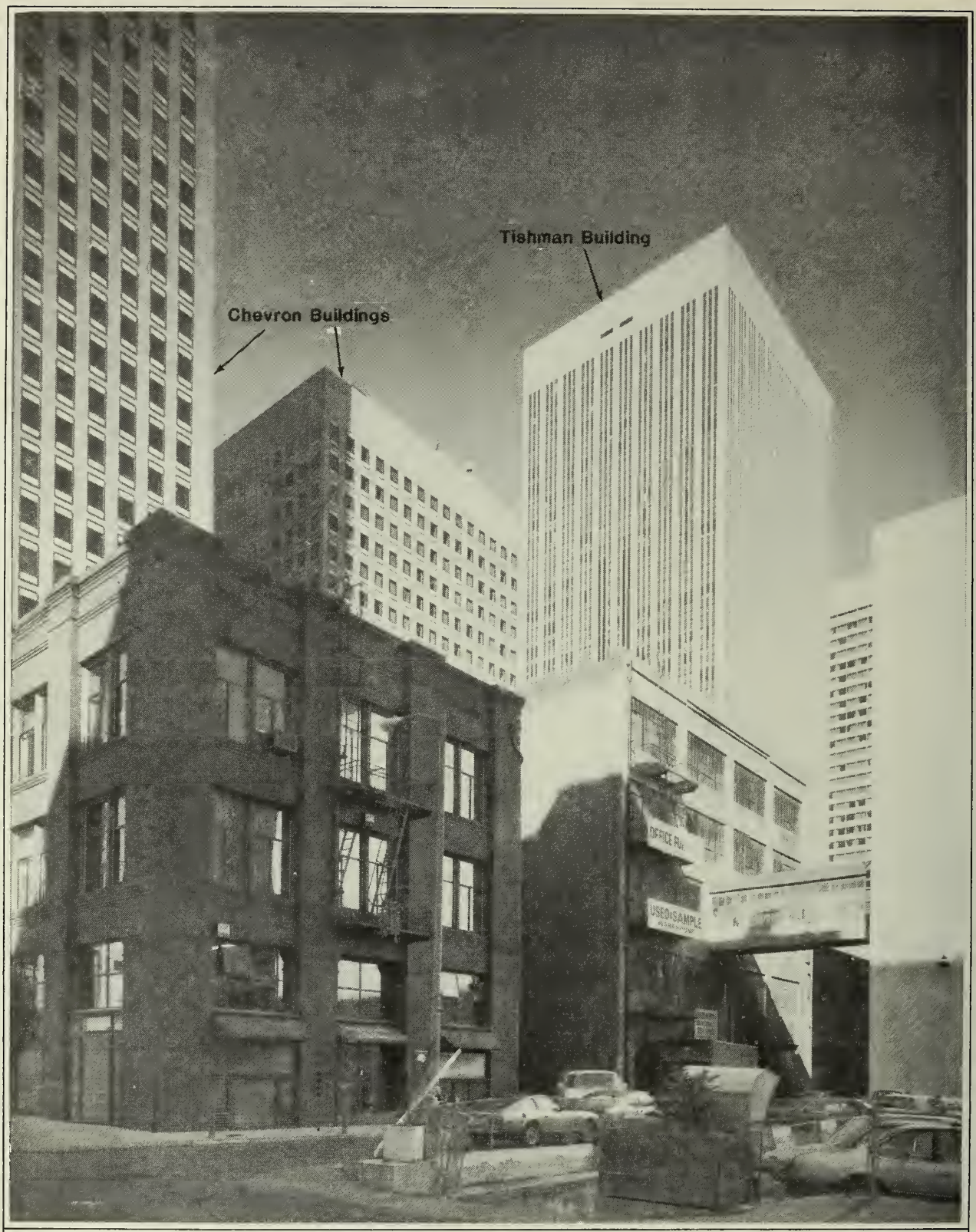
Ratings are shown for all buildings; only numbered buildings are listed.

FIGURE 11: Architecturally Significant Buildings Near the Project Site

SOURCE: Environmental Science Associates, Inc.

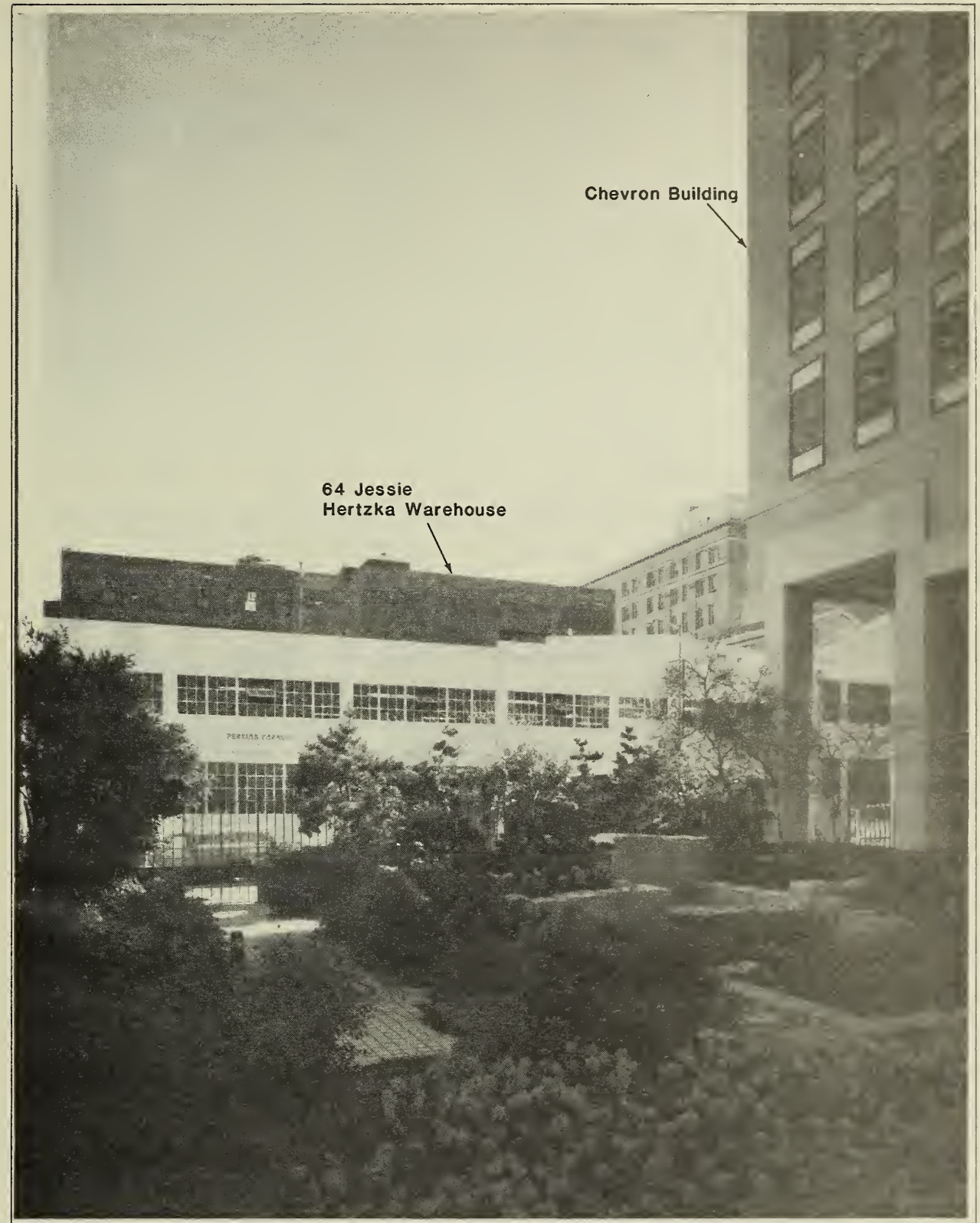
FIGURE 12: Stevenson St. Frontage

SOURCE: Environmental Science Associates, Inc.



SOURCE: Environmental Science Associates, Inc.

FIGURE 13: Jessie St. Frontage



SOURCE: Environmental Science Associates, Inc.

FIGURE 14: View Of Site Across Chevron Garden Plaza

Overall, the area reflects visual diversity and architectural complexity in its combination of large- and small-scale structures, contrasting building materials and variations in streetscape settings.

NOTES - Architectural Resources and Urban Design

/1/ The warehouse at 64 Jessie St. is rated "B" in the Heritage Survey. However, the building should have been rated "C" as an error was discovered in the translation from the qualitative rating to its corresponding numerical value in the evaluation system. (See letter dated February 12, 1982 to Sally Maxwell, Office of Environmental Review, from Michael Corbett, Architectural Historian, Heritage. A copy of this letter is available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister St., 5th floor.

/2/ The Foundation for San Francisco's Architectural Heritage, Splendid Survivors, California Living Books, San Francisco, 1979, p. 13.

C. EMPLOYMENT, HOUSING AND FISCAL FACTORS

ON-SITE EMPLOYMENT

The parking garage now operating at the project site employs about four full-time workers. The warehouse employs one full-time worker. There are no other uses or businesses on the project site.

SAN FRANCISCO AND REGIONAL OFFICE SPACE MARKET

Existing and Proposed Office Space

San Francisco is the major office center in the Bay Area with approximately 57.2 million gross sq. ft. of office space (see Table A-1, Appendix A, p. 141)./1/ During the 1970s, space in downtown office buildings was added at a rate of about 1.5 million sq. ft. per year. In 1981 and 1982, the average rate of office space additions was about two million gross sq. ft. annually. Office buildings with a total space of approximately 32.3 million sq. ft. were constructed between 1960 and 1981.

Vacancy Rates/Commercial Rents

Based on a 1981 survey of about 290 buildings, the San Francisco Building and Owners Association (BOMA) reports a citywide vacancy rate of 1.04%./2/ According to a June 1982 Coldwell Banker survey, the vacancy rate in downtown San Francisco office buildings (new, existing and major renovations) was 3.4% between March 31, 1982 and June 30, 1982./3/ The 3.4% rate is an increase from 0.1% during the same period in 1981 and is the highest that has been reported since Coldwell Banker started this survey in 1978. The current 3.4% vacancy rate is the fourth lowest in the nation among major downtown financial districts./3/ For comparison, the June 30, 1982 vacancy rate is 6.9% nationally; 6.4% for Chicago; 2.6% for downtown Manhattan; and 3.9% for Dallas.

Grubb and Ellis reports an August 1982 vacancy rate of 10% in first-class office space (applies to users of more than 25,000 sq. ft.) in downtown San Francisco./4/ The Coldwell Banker and Grubb and Ellis vacancy rates are not directly comparable, as each survey includes different numbers and types of buildings. Both surveys, however, indicate a short-term upturn in the downtown office vacancy rate. The recent, short-term increase in the downtown vacancy rate may be attributable to several factors, including an increase in the amount of available office space (due to new space being completed and space available for sublease), a short-term decrease in the demand for office space, and the national economic recession. One effect of the shortage of office space in San Francisco has been to stimulate office development and increase demand for existing office space elsewhere in the Bay Area. Some businesses move their clerical, support, and non-corporate functions to outlying areas while maintaining headquarters and main branch offices in San Francisco. The City of Oakland and San Mateo and Contra Costa Counties, in particular, are experiencing increased demand from businesses relocating from San Francisco. For example, approximately 6.0 million sq. ft. of office space in nine new buildings are currently proposed for the City of Oakland over the next 10 years./5/

Due to historically high demand, annual rents for commercial office space in the downtown Financial District have almost tripled in the last decade (from $8.50 per sq. ft. in 1970 to $23 per sq. ft. in 1980)./6/ High quality, new

space currently leases for $25 to $35 per sq. ft. annually./7/ Current rents in older buildings in the Financial District are less expensive, averaging between $10 and $15 per sq. ft. Existing, converted and rehabilitated commercial office space located South of Market rents for between $12 and $15 per sq. ft.; new South-of-Market office space will rent for about $23 per sq. ft./8/ San Francisco rents of $25 to $35 per sq. ft. are now about 35% higher than commercial rents in Oakland ($17 to $20 per sq. ft.); the Peninsula ($18 to $22 per sq. ft.) and Contra Costa County ($18 to $20 per sq. ft.)./7,8/ Should the recent rise in vacancy rates continue, current and future commercial rents would be expected to decline proportionately in San Francisco and outlying areas.

HOUSING

Both regional and San Francisco housing stock are characterized by low growth rates, low vacancy rates, and high purchase and rental costs in relation to typical wages paid. This combination of factors and high mortgage costs have tended to constrict the supply and affordability of housing in San Francisco.

San Francisco had about 322,000 housing units as of the end of 1980; about two-thirds of the housing stock is rented and one-third is owner occupied./9/ The number of new single- and multiple-housing units in San Francisco (authorized by building permits) decreased 34.4% between 1979 and 1980./10/ The average 1980 market value of a single-family house was $140,000 in the Bay Area and $148,000 in San Francisco./11/ The 1980 Census reports a 1980 median value of $104,600 for single-family units (not including condominiums), and a vacancy rate of 0.6%./12/

FISCAL

Property Tax Revenues

The assessed valuation of the project site in 1981 was approximately $780,000./13/ Based on the fiscal year 1981-82 property tax rate of $1.19 per $100 of assessed valuation, the parcel generated about $9,300 in property tax revenues. The distribution of these revenues are shown in Table 2.

TABLE 2: DISTRIBUTION OF PROPERTY TAX REVENUES, FISCAL YEAR 1981-82

Agency	Ad Valorem Tax Rate*	Percent	Revenues**
City and County of San Francisco	$0.945	79.4	$7,391
S.F. Unified School District	0.142	11.9	1,108
S.F. Community College District	0.025	2.1	195
Bay Area Air Quality Management District	0.002	0.2	18
BART	0.076	6.4	596
TOTAL	$1.19	100.0	$9,309

*Rounded
**Based on the 1981-82 composite tax rate of $1.19 per $100 of fair market valuation.

SOURCE: San Francisco Controller's Office

Parking and Payroll Taxes

Uses on the site generate parking and payroll taxes to the City's General Fund. Average annual earnings of the five full-time employees at the site in 1981 are estimated to be $10,000./14/ At the 1981-82 payroll rate of 1.5% of total earnings, present employment is estimated to generate about $750 annually to the city. The parking garage on the site generates about $52,200 to the General fund from the 15% parking tax./15/

Based on the present business on the site and the number of employees and wages paid, the revenue to the City's General Fund from the property, payroll and parking taxes totaled about $62,250 in 1981.

Costs and Net Revenues

The City incurs costs in serving the existing buildings. Police, fire and general government expenditures are supported primarily by the General Fund. Most street maintenance, street improvement, and traffic control costs are

supported by other revenue sources such as fees, fines, and federal and state aid, which have been declining.

NOTES - Employment, Housing and Fiscal Factors

/1/ San Francisco Department of City Planning, "Major Office Building Construction in San Francisco Through 1981, In Gross Square Feet; and "Cumulative Office Development in Downtown San Francisco As of August 6, 1982" (see Appendix A, Tables A-1 and -3, pp. 141 and 143).

/2/ Elmer Johnson, Director, Buildings and Managers Association, telephone communication, May 6, 1982.

/3/ Coldwell Banker, "Office Vacancy Index of the United States," June 30, 1982. San Francisco vacancy rates are part of a national survey of 24 major downtown districts conducted quarterly. A copy of the June 30, 1982 survey is on file and available for public review at the Office of Environmental Review, 450 McAllister St., 5th Floor.

/4/ William J. McCubbin, Senior Vice President/District Manager, Grubb and Ellis, telephone conversation, September 7, 1982.

/5/ City of Oakland, Department of City Planning; "Major Buildings in the Central District," January 26, 1982.

/6/ Department of City Planning Memorandum to the City Planning Commission, "South of Market Interim Controls," January 26, 1982.

/7/ Derek Morris, Leasing Agent, Cushman and Wakefield, telephone communication, May 7, 1982; Valerie Miles, Senior Broker, Coldwell Banker, Oakland Office, telephone communication, April 23, 1982; and Jeffery Nebel, Leasing Agent, Coldwell Banker, telephone communication, April 30, 1982.

/8/ Assuming that demand remains relatively constant, rents in outlying areas are expected to increase in 1983 and 1984 as new space comes on line. One reason for the comparatively low rents in outlying areas is the lack of competitive space available. For example, new buildings in Oakland are expected to lease for $24 per sq. ft. in 1983, which will be comparable to rent for new buildings in the South of Market area. (Valerie Miles, Senior Broker, Coldwell Banker, Oakland Office, telephone communication, April 23, 1982.)

/9/ Michael Estrada, Planner, Department of City Planning, telephone communication, April 30, 1982; and Department of City Planning, Residence Changes in the San Francisco Housing Inventory, 1978, September 1979.

/10/ Real Estate Research Council of Northern California, Northern California Real Estate Report, vol. 33, No. 1, April 1981.

/11/ Security Pacific Bank, "Monthly Summary of Business Conditions - Northern Coastal," March 31, 1981, p. 2.

/12/ Dean Macris, Director of Planning, Department of City Planning, Memorandum entitled "1980 Census Information," March 25, 1982.

/13/ San Francisco Controller's Office.

/14/ Assuming the labor on-site is unskilled, the average annual wage for existing workers was estimated to be about $10,000 (based upon the minimum wage of $4.80 per hour).

/15/ The parking garage has about 290 parking spaces. The gross receipts from the parking garage are unknown; therefore, the parking tax (15%) was based on the current monthly rate of $100/mo/space (the rate charged to long-term parkers who use approximately 80% to 90% of total parking spaces). This amounts to $29,000/mo or $348,000/yr. The parking tax for the estimated gross receipts ($348,000/yr) would be $52,200/yr.

D. TRANSPORTATION

TRANSIT

The site area is served by electric trolley, bus and light rail vehicle (LRV) lines of the San Francisco Municipal Railway (Muni). Regional service is provided to and from the East Bay by the Bay Area Rapid Transit District (BART) at the Montgomery St. Station on Market St., and by the Alameda - Contra Costa (AC) Transit District buses from the Transbay Transit Terminal about one block due east of the site. Peninsula service is provided by the Southern Pacific Transportation Company from the terminal at Fourth and Townsend Sts., and by the San Mateo County Transit District (SamTrans), which has bus routes and stops along various streets in the area, including Mission St., and transfer connections at the Daly City BART Station. The Golden Gate Bridge, Highway and Transportation District (Golden Gate Transit) provides peak-period bus service from and to Marin and Sonoma Counties through a.m. stops on Battery St. and First St. near Market St., at the Transbay Transit Terminal, and p.m. stops at the Transbay Transit Terminal, on Fremont St., on Pine and Sansome Sts., and at stops along Howard and Folsom Sts. Golden Gate Transit also provides ferry commute service to terminals in Larkspur and Sausalito from the Ferry Building, and Harbor Carriers, Inc. provides service to Tiburon. Golden Gate Transit operates a van-pooling program to North Bay areas not served by motor coach routes. A car pooling program, RIDES for Bay Area Commuters, provides leasing and matching services for establishing van

and car pools. Independently owned and operated jitneys provide additional transit service on Mission St. during the peak commute hours.

Muni

Muni has established maximum load factors for vehicle types, which are used as a basis for scheduling peak-hour trips on each route; the factors range from 144% to 220% of seated capacity. Loading in excess of a maximum load factor increases passenger loading time, reduces schedule adherence, and provides a low level of passenger comfort (see Appendix D, Figure D-1, p. 163, for pictorial representations of peak-period loading on several lines).

Market, Mission, First and Second Sts. in the vicinity of the site are Transit Preferential Streets./1,2/ The principal transit preferential measures now in effect are exclusive bus (diamond) lanes, the prohibition of left turns, and curb-side parking prohibitions (tow-away zones) on Mission and First Sts., and an exclusive transit turning movement from eastbound Market St. to southbound First St. In addition, First St. is designated as a Transit Street and Market and Mission Sts. are designated as Transit Arterials./1/

Muni has plans to increase the capacity of its downtown service in several ways. Fifteen additional Light Rail Vehicles (LRVs) are on order for use in the Muni Metro System. Construction of a loop to replace the existing stub-end terminal at The Embarcadero is planned, with a possible surface extension on The Embarcadero; implementation is partly contingent upon federal funding which has not yet been secured. Also planned is the introduction of articulated buses with a 50% larger capacity than that of conventional buses. None has been ordered to date./3,4/ Further integration of BART into the downtown transit system is planned by allowing use of Muni Fast Passes for travel on BART trains within San Francisco. Additional increases in above-ground route capacity are planned by restrictions on automobile use on Market St. and other streets.

Present scheduled outbound capacity on 52 downtown routes between 4:30 and 5:30 p.m. is about 47,400 passengers. The projected capacity in January 1984 is about 50,900./5/ The increase in capacity is planned to match

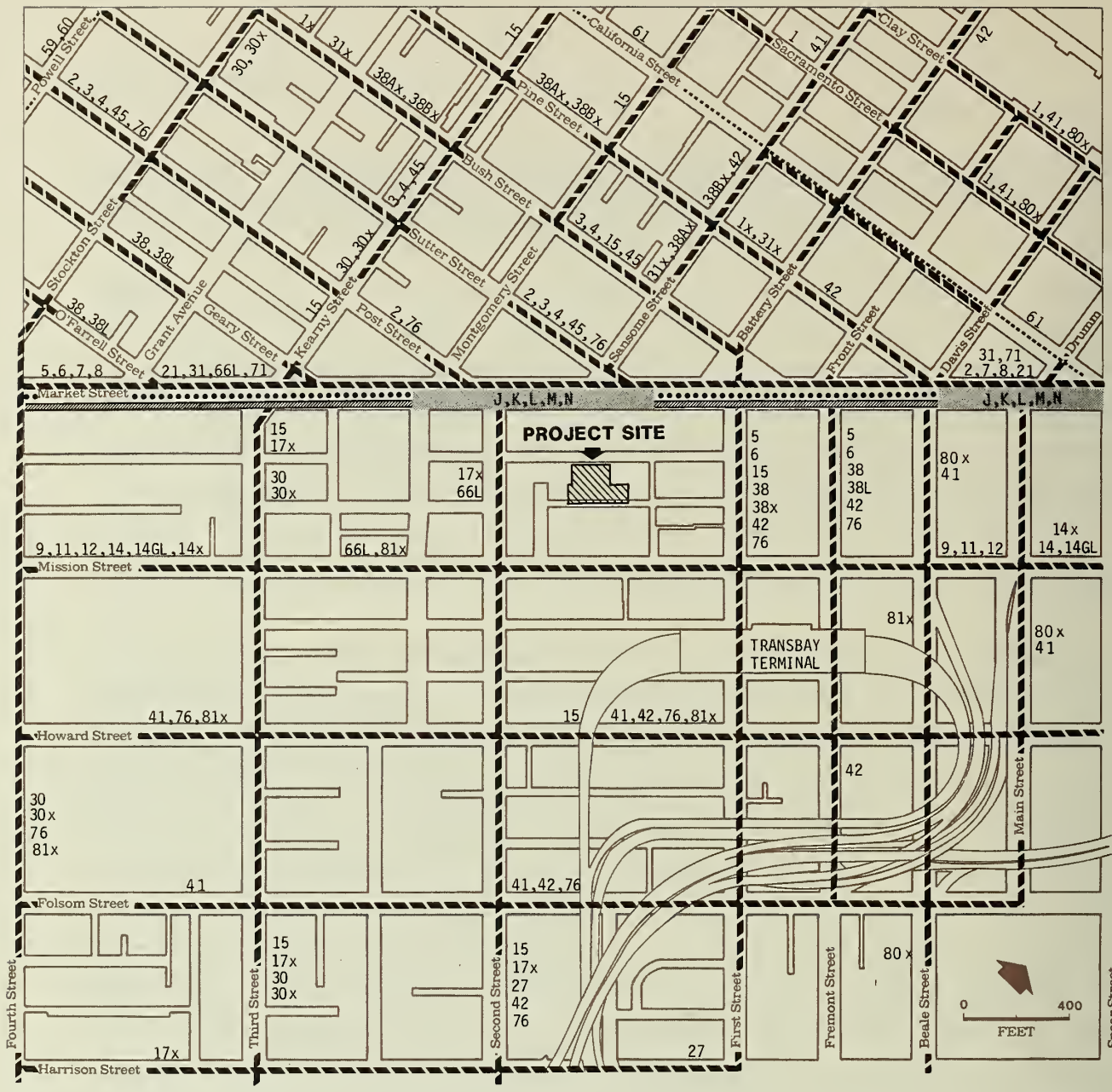
approximately the increase in demand, so that present operating conditions, such as excessive crowding on some vehicles, are not expected to be improved.

The site is centrally located for access to all Muni lines. All Muni Metro LRV lines serve the site from the Montgomery St. subway station at Montgomery and Market Sts. (see Figure 15, p. 38). Thirty-nine bus and trolley lines stop within 2,000 feet (walking distance) of the site and/or at downtown terminals. Bus service to the Southern Pacific Depot is available within one block via Routes 15, 27 and 42, which have stops on First or Fremont Sts.

PEDESTRIANS

The sidewalks on Stevenson St. at the site are 6.5 ft. wide on the south (site) side and 7.5 ft. wide on the north side. Illegal parking on the north sidewalk frequently occurs, as the curb can be mounted, partially blocking the way for pedestrians. The narrow (three ft.) "sidewalks" on Jessie St. receive little or no use by pedestrians, who walk in the street. (The curbs on Jessie St. serve primarily to keep maneuvering vehicles from striking building walls.) As on Stevenson St., vehicles are often parked illegally on the north (site) side, by mounting the curb. Pedestrian traffic on Jessie and Stevenson Sts. peaks at midday, when there are about 800 pedestrians per hour along the north and south sidewalks of Stevenson St. This traffic represents an estimated 11% of the total capacity of these sidewalks, when it is assumed that half of the sidewalk on the north side is blocked by illegally parked vehicles./6/

Pedestrian traffic in Ecker and First Sts. peaks during the p.m. hour of 4:30-5:30, when there are about 1,300 pedestrians per hour on Ecker St., and 1,500 per hour on the west sidewalk of First St. This north-south pedestrian movement all but predominates on the block (except for 2,500 per hour on Market St.) during the p.m. peak hour. Ecker St. is 10 ft. wide (property line to property line) along its narrowest width: that portion between Stevenson and Jessie Sts. Along this portion, Ecker St. operates at an estimated 16% of capacity during the p.m. peak hour, with assumed use of the street as well as the sidewalk (37% if pedestrians confined their paths to the sidewalk there). On the west side of First St. the peak-hour flows represent



LEGEND

- BART and Muni Metro Station
- BART Route
- Muni Metro Subway
- Transit Route
- Cable Car Route
- 1,2,3,J,K,L Route Designation

FIGURE 15: Muni and BART Routes in the Project Area

SOURCE: Environmental Science Associates, Inc., Using San Francisco Municipal Railway Interim Map, January 1982

an estimated 18% of the sidewalk's capacity. On Mission and Market Sts., peak-hour pedestrian traffic is estimated at six percent and 12% of capacity, respectively./6/

Under the worst condition identified above (pedestrian traffic of 18% of capacity on First St. during the p.m. peak hour) pedestrians have a virtually unrestricted choice of walking speed; maneuvering is needed to avoid conflicts and to pass. However, conditions in crosswalks and on the corners of the intersection of First and Mission Streets are less favorable. The east and west crosswalks operate at an estimated 65% of capacity during the p.m. peak hour, and the north crosswalks at 30%-40% of capacity. Pedestrians crossing Mission St. effectively block left and right turns onto Mission St. from First St. for all of the First St. vehicular green signal indication. (Left turns proceed on yellow (about three or four per cycle) and right turns are made on the red and yellow indications.) The reservoir space (for the purposes of this report reservoir space is defined as the area of sidewalk which would be formed if crosswalk lines were extended to building lines) on the northwest corner of the intersection is roughly half used, so that considerable blockage of one crosswalk's flows by the other's occurs at that location.

VEHICULAR TRAFFIC

Access to freeways connecting with the East Bay, San Francisco International Airport and the Peninsula is provided by the Embarcadero Freeway, with ramps on Main St. at Mission St. (off-ramp, northbound), Beale St. at Mission St. (on-ramp, southbound), Clay St. at Davis St. (on-ramp, southbound), and Washington St. at Davis St. (off-ramp, northbound). Another ramp at First and Harrison Sts. (on-ramp, northbound) provides direct access to the Bay Bridge approach.

Market, Fremont and Second Sts. are designated Major Thoroughfares in the Thoroughfares Plan of the Downtown Transportation Plan of the Transportation Element of the Comprehensive Plan./7/

Market St. is a two-way, four-lane street with some right-turning lanes at certain intersections. Mission St. operates as a two-way, four-lane street

with the outer lanes designated as diamond lanes for bus use only from 7:00 a.m. to 6:00 p.m. west of Beale St. First St. is one-way southbound with four lanes between Market and Mission Streets.

At the intersection of Mission St. with First St., the pedestrians crossing Mission St. interfere with movements onto Mission St. by traffic southbound on First St. Curb lanes on First St. often back up to Jessie St. or Stevenson St. as a result of these vehicle-pedestrian conflicts during the p.m. peak hour. The through-lanes at this intersection operate under better conditions, at about 2/3 of capacity on Mission St. and 50% of capacity on First St.

Vehicular traffic is light on Stevenson St. and Jessie St. during the p.m. peak hour, consisting of about 170 and 50 vehicles, respectively. Ecker St. is now closed to vehicular traffic because of the construction of the Ecker Square Building at 25 Jessie St., and will be closed permanently to vehicular traffic (except emergency vehicles) after completion of the project./8/

PARKING

The site is in an area designated in the Downtown Transportation Plan/9/ as the Downtown Core Automobile Control Area, which is defined in the Plan as an area where "a continuing effort should be made to reduce the impact of the private commuter vehicle";/10/ the area designated as appropriate for short-term parking facilities is located about 1,000 feet to the south./11/ No curbside parking is currently provided on either side of Mission, Market or First Sts. on the project block.

The available curb space (not along curb cuts) on the south sides of Jessie and Stevenson Sts. on the project block is normally fully occupied by parked passenger vehicles, even though it is primarily designated as yellow and red zones. Parking is prohibited on Market St. at all times and on First St. and Mission St. during tow-away zone hours of 7:00 a.m.-9:00 a.m. and 4:00 p.m.-6:00 p.m. There is some metered parking (1 hour) along Mission St. at other hours, and on Second St. (30 minutes) at all hours except during a 7:00 a.m.-1:00 p.m. loading zone period. Parking is prohibited on the north sides of Stevenson and Jessie Sts., but many drivers park there illegally by

mounting the curb. These conditions on Jessie and Stevenson Sts. suggest that enforcement of parking regulations is lax there.

The existing three-level parking garage on-site can accommodate about 300 vehicles. Recent studies indicate little unoccupied long-term parking in the downtown core area./12/ A 1981 survey of the area within 2,000 ft. of the site showed 500 spaces available out of 12,500 spaces, a vacancy rate of 4%./13/ Vacancy rates of long-term spaces in the area within 2,000 ft. of the site ranged from 7% to 10% for the 12,500 long-term spaces, 80% of which were over 1,000 feet from the site./14/ Of these 12,500 spaces 300 are located on lots that would be removed by projects under formal review: 90 New Montgomery and 315 Howard, 400 spaces would be removed by two projects presently under formal review: 333 Bush and 388 Market. The Yerba Buena Redevelopment Area, which is scheduled for full completion in 1988 would remove an additional 1,141 spaces.

NOTES - Transportation

/1/ Transit Preferential Streets are streets where interference with transit vehicles by other traffic should be minimized. Transit Streets are streets which should be oriented primarily or exclusively to satisfaction of transit requirements. Transit Arterials are routes of major arterial transit lines.

/2/ Transit Preferential Measures are specified in the San Francisco Municipal Railway, April 1980, Five Year Plan: 1980-85, as follows:

a) Creation and enforcement of exclusive transit lanes;
b) Synchronization of traffic signals with the speed of transit vehicles rather than the speed of automobiles, and the use of signal devices which can be preempted by transit vehicles;
c) Extension into the street of sidewalk curbs at bus stops so that buses may pick up passengers without having to leave and re-enter the lane of travel; and
d) Enforcement of traffic and parking regulations which facilitate the movement of transit vehicles.

/3/ San Francisco Municipal Railway, April 1980, Five-Year Plan: 1980-85.

/4/ Susan Chelone, Transit Planner, Municipal Railway, interview, July 22, 1981.

/5/ San Francisco Municipal Railway Five-Year Plan: 1981-86.

/6/ Pedestrian conditions were assessed using methods reviewed by Boris Puskarev and Jeffrey Zupan in Urban Space for Pedestrians (MIT Press, 1975).

Pedestrians were counted between 12:00 and 1:30 p.m. on Tuesday, February 23, 1982, and between 4:30 and 5:45 p.m. on Thursday, February 25, 1982.

/7/ The Thoroughfares Plan of the Downtown Transportation Plan of the Transportation Element of the Comprehensive Plan, 1972, page 19, states that the function of major thoroughfares is to "link districts within the city and to distribute traffic from and to the freeways; these are routes generally of citywide significance; of varying capacity depending on the travel demand for the specific direction and adjacent land uses."

/8/ Center City Pedestrian Circulation and Goods Movement Study, 1980, page 25-26.

/9/ Department of City Planning, 1972, amended 1977, Transportation Element of the Comprehensive Plan.

/10/ The Downtown Core Automobile Control Area is described in the Downtown Transportation Plan of the Transportation Element of the Comprehensive Plan, amended 1977, page 24, as, "that intensely populated area which functions as a financial, administrative, shopping, and entertainment center where priority must be given to the efficient and pleasant movement of business clients, shoppers and visitors; where a continuing effort should be made to improve pedestrian, transit, and service vehicle access and circulation; where priority for the use of limited street and parking space within this core should be available for these functions; and where a continuing effort should be made to reduce the impact of the private commuter vehicle."

/11/ The Downtown Transportation Plan, page 24, encourages provision of short-term parking facilities, and states that automobiles should be intercepted at short-term "parking facilities located around the core next to major thoroughfares ..." which "would be designed as replacements for those on-street spaces pre-empted by service or pedestrians within the core. Frequent transit service and adequate pedestrian ways should be provided for the final link of these trips."

/12/ San Francisco City Planning Commission, Five Fremont Center Final EIR, EE80.268, certified March 12, 1981. TJKM, Transportation Consultants, survey of the area bounded by The Embarcadero, Washington, Kearny, Third and Harrison Sts.

/13/ The parking inventory survey was conducted on November 5, 10, 13 and 17, 1980, and January 20-23 and 26, 1981 (all weekdays) between the hours of 10:00 a.m. to noon and 1:00 to 3:00 p.m. by TJKM, Transportation Consultants.

E. GEOLOGY, SEISMOLOGY AND HYDROLOGY

GEOLOGY

The site is located on flat land about 3,000 ft. southwest of San Francisco Bay. The ground surface elevation ranges from about +9 to +13 ft., San Francisco Datum (SFD). The SFD has Elevation "0" set at 8.6 ft. above mean sea level. The site is completely covered by buildings. Higher land is located to the northwest at Nob Hill, to the north at Telegraph Hill and to the southeast at Rincon Hill.

A preliminary soils investigation prepared on the project site by Lee and Praszker included data from borings at the perimeter of the site and a synthesis of geologic data in the vicinity./1/ Both buildings occupying the site have basements with floors at about 10 ft. below curb level. It appears that the basements were excavated into fill deposits consisting mostly of sand and rubble. The fill was placed as early as 1850 and laid to a depth of 10 ft.-15 ft. Some of this unengineered fill may underlie the basement floors.

The fill material rests on top of clean, uniformly graded wind-blown sand which extends to a depth of 30 ft. below the ground surface. The sand, in turn, rests on soft compressible Bay mud ranging in thickness from 10 ft. to 17 ft. at the site. Immediately below this Upper Bay mud are dense sands with varying amounts of clay; these deposits extend to an average depth of 85 ft. Underlying the sand are several layers of stiff clays called the Lower Bay Clays. These clays are similar in composition to the Upper Bay mud, but are less susceptible to consolidation when loads are placed on them. The Lower Bay clay deposits rest on bedrock, which is probably Franciscan formation material./2/ The depth to bedrock is about 225 ft.; or bedrock starts at about Elevation -215 SFD (see Appendix E, p. 168, for a listing of probable sediment layers).

SEISMOLOGY

No active faults (faults which have an historic record or other geophysical evidence of movement within approximately the last 10,000 years) are known to

exist within San Francisco. Several active faults affect San Francisco; these are the San Andreas Fault, about 9 miles southwest of the site; the Hayward Fault, about 16 miles to the east; and the Calaveras Fault, about 30 miles to the east.

Both the San Andreas and the Hayward Faults have histories of major and minor movements. Earthquakes can be expected in this region in the future. Within the next 60 to 170 years (estimates of recurrence intervals vary), at least one earthquake of the magnitude of the 1906 San Francisco earthquake (about 8.3 on the Richter scale of magnitude, a logarithmic scale developed by Charles Richter to measure earthquake magnitude by the energy released) and several earthquakes comparable to the 1957 Daly City earthquake (about 5.3 on the Richter Scale) can be expected to affect the proposed building./3/

According to the Blume/URS study, San Francisco Seismic Safety Investigation, Geologic Evaluation (1974), potential earthquake-induced groundshaking at the site would be "strong" in a 1906-type earthquake./4/ That report indicates that the site is subject to liquefaction potential/5/ and subsidence hazard./6/ The report also indicates that the site is an area where the existing buildings would be subject to "heavy damage" in a 1906-type earthquake./7/ Using information in the preliminary geotechnical report, the consulting geologists have concluded that the natural soils beneath the site will not be subject to compaction, liquefaction or internal disintegration during an earthquake./1/ However, these hazards would be expected for the artificial fill if much of it is located beneath the basements on the site. The hazard of densification and compaction cannot be predicted without further geotechnical measurements, because of wide variation in the fill quantity and depth.

HYDROLOGY

No water bodies, springs or water courses are located on or near the project site. The site is low-lying and if surrounding areas were naturally drained, it would receive the runoff from the surrounding areas to the north and west. Surface runoff is generally greatest during the wet-weather period between November and April.

Stormwater runoff is discharged into a combined sanitary sewer and storm drain system and is transported to the North Point Water Pollution Control Plant. The system is designed to handle the runoff which might occur during a five-year storm./8/ Runoff from larger storms exceeds the capacity of the combined system, and the excess is carried in some city streets. In addition, stormwater runoff currently causes overflows of wastewater into the Bay. Wastewater management system improvements currently under design would reduce the number of overflows from large storms to approximately 1-8 per year./9/

High groundwater levels occur at the site. Open standpipes installed during the test borings/1/ indicated that the stabilized groundwater in January, 1982 was at about -7 ft. SFD. Past groundwater readings in the area indicate groundwater levels ranging between elevations -5 and -13 ft. SFD.

NOTES - Geology, Seismology and Hydrology

/1/ Lee and Praszker, Consulting Geotechnical Engineers and Geologists, January 29, 1982, Preliminary Geotechnical Investigation, Proposed Stevenson Street Office Building, San Francisco, California.

/2/ Franciscan rocks are typical of the northern California Coast Ranges and underlie the hills of San Francisco. They consist of a mixture of dark colored muddy sediments, red, green and brown cherts and lava flows of black basalt, all material laid down on the floor of the Pacific Ocean about 100 million years ago. Cherts are rocks formed by deposits of silica containing microorganisms, which are transformed into hard, waxy or porcelain-like rocks. Also known as Franciscan Formation or Franciscan Assemblage. See Roadside Geology of Northern California, David D. Alt and Donald H. Hyndman, Mountain Press Publishing Company, Missoula, Montana, 1975.

/3/ Tocher, Don, California Division of Mines, 1959, Seismic History of the San Francisco Region.

/4/ Strong groundshaking effects are described as creating "general but not universal fall of brick chimneys, cracking of masonry and brick work." Strong (level D) groundshaking is defined in the context of a scale ranging from level A to E, with E defined as the most severe.

/5/ Liquefaction is the sudden transformation of granular material, such as loose wet sand, into a fluid-like state similar to quicksand as a result of an earthquake. The project site is located on the margin of the area mapped by Blume/URS as having liquefaction potential. The potential is created by the pressure of artificial fill, consisting mostly of loose sand and including brick and stone rubble overlying the Bay mud, and the high groundwater conditions.

/6/ Seismic subsidence is the rapid settlement of the soil as a result of an earthquake. The project site is located on the margin of the area mapped by Blume/URS as having subsidence hazard. The potential is created by the presence of unconsolidated artificial fill resting on compressible Bay mud.

/7/ Heavy damage rates "3" on a scale of 1 to 4 with 4 as the worst damage. The hazard does not apply to individual structures such as those on the project site, but rather refers to a general block average condition.

/8/ A five-year storm is the largest storm which could occur in a geographic area once in approximately five years. It has a 20% probability of occurring once in any given year.

/9/ Metcalf and Eddy, Engineers, February 1978, Southwest Water Pollution Control Plant Project, Interim Planning Criteria Report.

IV. ENVIRONMENTAL IMPACT

Effects of the project which were found not to be significant after review in the Initial Study are in the areas of land use and zoning (the project would comply with use and height and bulk limitations of the Planning Code), construction air quality (because of mitigation measures proposed as part of the project) and community services. The Initial Study is included in this report as Appendix H, p. 171.

A. ARCHITECTURAL RESOURCES AND URBAN DESIGN

Architectural Resources

The project would require the demolition of two "C" rated buildings (see Section III.B., p. 22, for a description of these buildings). In conjunction with other developments proposed and under construction in the site vicinity, including 562 Mission St. and the Ecker Square Building (25 Jessie St.), the setting would be changed from one of low-rise converted warehouse type buildings to a mixture of these older buildings with the new high-rise office buildings. Since the "C" rating is primarily a reference to the setting created by buildings, the importance of the "C" rating for other remaining nearby older structures could be lessened.

Relationship of the Project to the Comprehensive Plan

The Urban Design Element of the San Francisco Comprehensive Plan contains policies and principles intended to serve as guidelines for new development and for the preservation of architecturally/historically significant buildings. The policies contained in the plan are used as the basis for evaluation of the proposed project with respect to its urban design implications. The relationship between the applicable urban design policies of the Comprehensive Plan and the proposed project is summarized in Table 3, p. 48.

TABLE 3: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT

APPLICABLE URBAN DESIGN POLICIES	RELATIONSHIP OF PROJECT TO APPLICABLE POLICIES
A. Policies for City Pattern	
1. Policy 1: "Recognize and protect major views in the City, with particular attention to those of open space and water." (p. 10)	The project site is outside the City's major designated view corridors (California and Pine Sts.) and would not obstruct any scenic views now available to the public.
2. Policy 3: "Recognize that buildings when seen together, produce a total effect that characterizes the city and its districts." (p. 10)	The project would join a number of other comparably-sized, relatively recent high-rise buildings in the downtown area. Collectively, these buildings provide the major visual identification for the central business district. The off-set roof line and two rounded corners of the structure would distinguish it from neighboring box-like high-rise structures south of Market St.
B. Policies for Conservation	
3. Policy 4: "Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development." (p. 25)	The project would require demolition of 2 buildings both of which were rated "C" in the Heritage Survey.
4. Policy 6: "Respect the character of older development nearby in the design of new buildings." (p. 25)	The project would represent a departure in form and scale from neighboring older development. The building facade materials would be glass and metal. Older buildings (pre 1950s) are generally brick, concrete or faced in terra cotta. Post 1950s development (facing the site across Stevenson St.) is more comparable to the project in scale and quality of surface materials.

TABLE 3: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT (Continued)

C. Policies for Major New Development	
5. Policy 1: "Promote harmony in the visual relationships and transitions between newer and older buildings." (p. 36)	See Item 4 above. Older buildings on either side of the site are of differing heights and architectural styles. The project would be set back from these older buildings to provide a visual separation; the height of the pedestrian arcade would be related to cornice lines of these buildings.
6. Policy 2: "Avoid extreme contrast in color, shape and other characteristics which stand out in excess of their public importance." (p. 36)	The project would be an irregular form having the appearance of 2 towers, off-set from each other, with curved corners at opposite ends. The glass would be tinted grey and the metal panels would be of light to medium values. These values would change depending on time of day, natural lighting conditions and reflected sky colors. In the context of neighboring box-like structures, the project would appear distinctive, but not "extreme" in the meaning of the Policy.
7. Policy 5: "Relate the heights of buildings to important attributes of the City pattern and to the height and character of existing development." (p. 36)	See Item 2 above. The project would be taller than neighboring low-rise and mid-rise development (see Figure 8, p. 18). The building height would form part of the stepping in scale from high-rise development in the center of downtown and on the project block (35-story 595 Market St. building, 39- and 22-story Chevron buildings, and the 38-story Tishman building) to lower-scaled development south of the site (including the 18-story Ecker Sq. building, the 5-story Golden Gate University buildings). The project height of 324 ft. would be 376 ft. below the permitted 700-ft. maximum height.

TABLE 3: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT (continued)

8. Policy 6: "Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction." (p. 37).	The bulk of the project would be similar in scale and massing to nearby new development. The curved portions of the building would have the effect of reducing the apparent size of the building.
D. Policies for Neighborhood Environment	
9. Policy 13: "Improve pedestrian areas by providing human scale and interest." (p. 57)	The project would provide visual interest at the street level via the curved, covered pedestrian arcade. Street trees and decorative pavement would be installed, with plazas situated around the building. Pedestrian access through the site would be provided by these plazas. The sponsor would be willing to place and maintain decorative pavement on the driveway of the City-owned building on the west side of the site.

* Department of City Planning, 1971, Urban Design Element of the Comprehensive Plan. Page references are shown in parentheses.

SOURCE: Environmental Science Associates, Inc.

Project Visibility

Generally, the project would not be highly visible in short-range views from the north, west and east because of its location behind taller development on the northern section of the project block. The upper portion of the building would be visible in short-range views from south of Market St., particularly along Mission St. between First and New Montgomery Sts. The project would not be visible in short-range views from north of Market St. because of taller development to its north; however, full views of a portion of the north side of the project would be available from the Chevron Garden Court, which fronts the project site (see Figure 16, p. 52).

In long-range views, the project would join a group of high-rise buildings which make up the Financial District skyline. The project would be visible from southerly views as development south of the site consists of low- and mid-rise buildings (see Figure 17, p. 53). The project would not be highly visible from northerly, westerly and easterly views as most of the structure would be obstructed by existing high-rise development: only portions of the northwest side of the building would be visible.

The project would not obstruct any scenic views or vistas now available to the public. Most views from nearby buildings would not be affected because of existing and approved taller developments. Some views from the south sides of the Tishman building, the Standard Oil buildings and the building at 595 Market St. would be obstructed below the 23rd floor. Views from the north sides of mid-rise buildings located south of the project site are already obstructed by existing high-rise development along Market St.

Shadows

Project shadows were analyzed for four times of the year for the hours of 10:00 a.m. to 2:00 p.m. Included in this report are graphic representations of project shadows which would affect either the Chevron Garden Plaza or the Tishman Plaza. When shadows would not reach either of these plazas during the hours or times of year analyzed, graphics are not included in the report but are available for public review at the Department of City Planning, Office of

SOURCE: Gensler & Associates, Architects

FIGURE 16: View from North Side Market St., across Chevron Garden Plaza

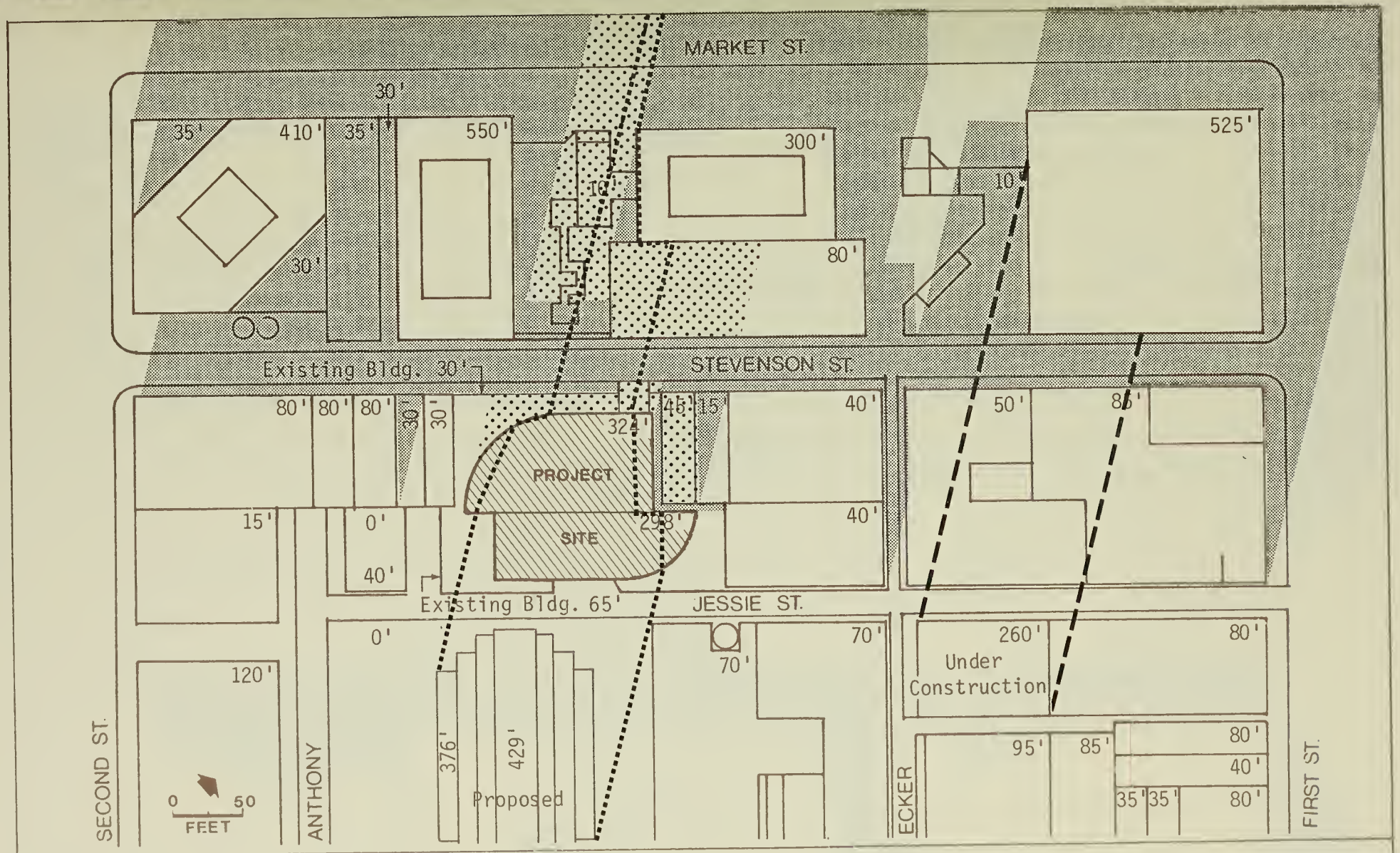
SOURCE: Environmental Science Associates, Inc.

FIGURE 17: View of the Site from the South

Environmental Review, 450 McAllister St., Fifth Floor, San Francisco. In addition to project shadows, shadows from existing buildings (including those on the project site), from the Ecker Square Building now under construction east of the site, and from the One Anthony Court Building proposed south of the site are also presented.

The project would cast new shadows on the Chevron Garden Plaza, across Stevenson St. from the site, and the Tishman Plaza, north of the site at the terminus of Ecker St. The impact is limited primarily to adding to the existing shadows cast by other high-rise building in the adjacent areas. The proposed One Anthony Ct. Building would be taller than the project; it would shade the project site, Chevron Garden Plaza and Tishman Plaza. Its shadow would be most elongated during winter afternoons, affecting Tishman Plaza. From spring to fall during mid-morning hours, its shadow would affect primarily the project plaza and surrounding streets. Figures 18-29 provide a projected visualization of shadows that would be cast by the project. The narrative below describes each of these impacts as they appear in the respective figures. June and September hours are Daylight Savings Time (DST).

In December, shadows are cast from the north-northwest direction to a north-northeast direction. At 10:00 a.m. (see Figure 18, p. 55), the project casts a shadow on the central portion of the Chevron Garden Plaza and on the western half of the 80-ft. portion of the Chevron Building. A portion of the Market St. sidewalk fronting the Chevron Garden Plaza would also be shaded. It should be noted that during the winter, the existing buildings on the site shade a small southern portion of the Chevron Garden Plaza (which is planted with flowers); however, this existing shadow slowly retreats during the latter part of day so that after 12 noon, the existing buildings' shadow would not be cast on the Chevron Garden Plaza. At 11:00 a.m. (see Figure 19, p. 56), the project would shade a greater portion (about 80%) on the 80-ft. portion of the Chevron Building, and about 20% of the Chevron Garden Plaza. At 12 noon (see Figure 20, p. 57), the shadow of the project would be cast northward over most of the 80-ft. portion of the Chevron Building, a minor portion of the elevated Tishman Plaza, along Market St. and on the rooftops of two adjacent four-story buildings northwest of the project. The shadow cast by the proposed One Anthony Court Building in December at noon time would shade the entire Tishman



LEGEND

Existing Shadow

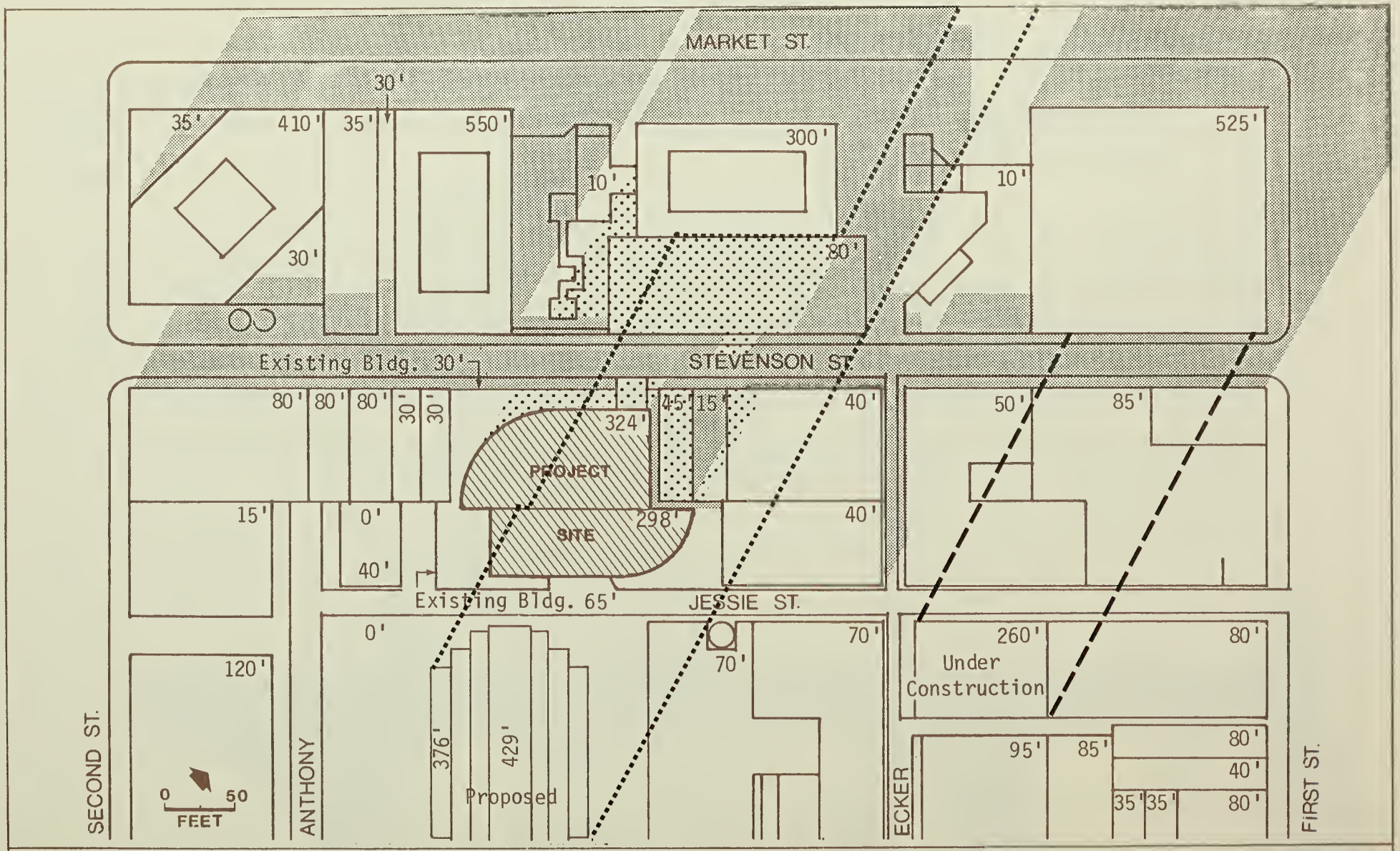
Project Shadow

Ecker Square Bldg. Shadow

One Anthony Court Shadow

FIGURE 18: Shadow Patterns – December 10 A.M.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.

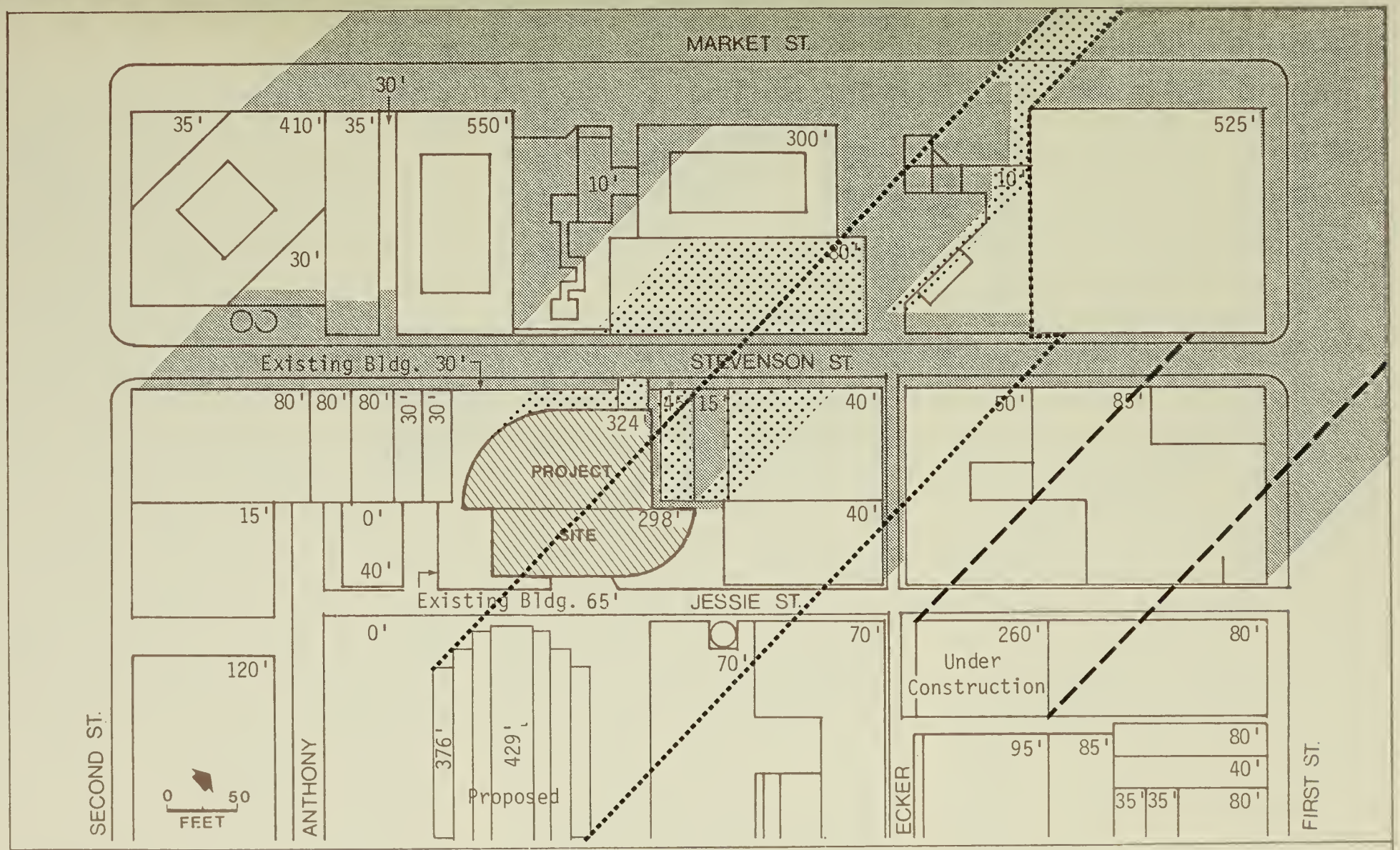


LEGEND

- Existing Shadow
- Project Shadow
- Ecker Square Bldg. Shadow
- One Anthony Court Shadow

FIGURE 19: Shadow Patterns – December 11 A.M.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.



LEGEND

Existing Shadow

Project Shadow

Ecker Square Bldg. Shadow

One Anthony Court Shadow

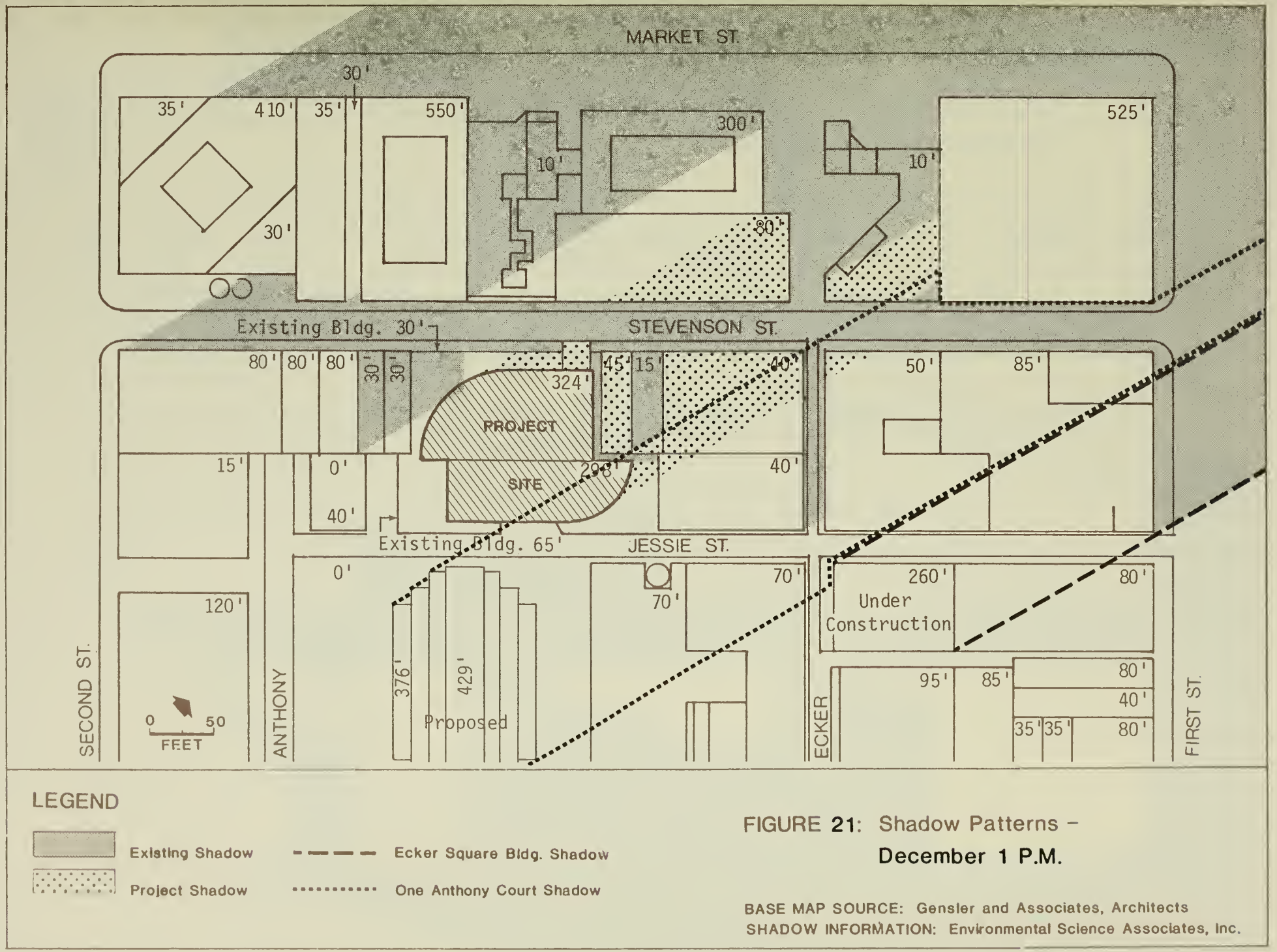
FIGURE 20: Shadow Patterns – December Noon

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.

Plaza area (both the elevated and non-elevated portions). At 1:00 p.m. (see Figure 21, p. 58), the project would cast a shadow north-northeast so that the northern half of the 80-ft. portion of the Chevron Building would be shaded, along with 20% of the southern end of Tishman Plaza (elevated portion), and the rooftops of two four-story buildings adjacent to the site. The longest shadow would be cast at 2:00 p.m. (see Figure 22, p. 59). At this time, a small portion of the Tishman Plaza (elevated portion) and the Stevenson St. sidewalk fronting the Tishman Plaza would be in shadow; the shadow would fall primarily on the rooftops of buildings northeast of the site.

The March/September shadow moves from morning to afternoon in a north-westerly to easterly direction. At 10:00 a.m./11:00 a.m. (see Figure 23, p. 61) in March/September (DST in September), the project would shade the entire Chevron Garden Plaza and the sidewalk fronting the Plaza. At 11:00 a.m./12 noon (March/ September), the project would shade the eastern half of the Chevron Garden Plaza (see Figure 24, p. 62). At 12 noon/1:00 p.m. (see Figure 25, p. 63), the project would cast a shadow on about 85% of the 80-ft. portion of the Chevron Building, a very small strip of the Tishman Plaza, and the rooftops of three adjacent buildings. In March/ September at 1:00 p.m./2:00 p.m. (see Figure 26, p. 64), the project would shade all or a portion of four adjacent low-rise buildings east of the site, a portion of the 80-ft. Chevron Building, and 10% of the elevated Tishman Plaza.

The building's shadow during summer would have the least impact on surrounding buildings and plazas because of the position and elevation of the sun. Shadows move from north-northwest to east, morning to afternoon. At 10:00 a.m. in June (DST) the project would shade the 30-ft. portion of the 595 Market St. building, the southern third of the Stacey's Bookstore building (35 ft. high), and the southern corner of the Chevron Garden Plaza (see Figure 27, p. 65). The rooftops of the three adjacent buildings on Stevenson St. west of the site would also be wholly or partially shaded. In June at 11:00 a.m. (see Figure 28, p. 66), the project would shade a small portion of the rooftop of Stacey's Bookstore and about 60% of the Chevron Garden Plaza. At noon, the project would shade about 40% of the Chevron Garden Plaza, a portion of Chevron's 80-ft. building and the rooftop of the adjacent 45-ft. building on Stevenson St. east of the project site (see Figure 29, p. 67). After noon,



LEGEND

Existing Shadow

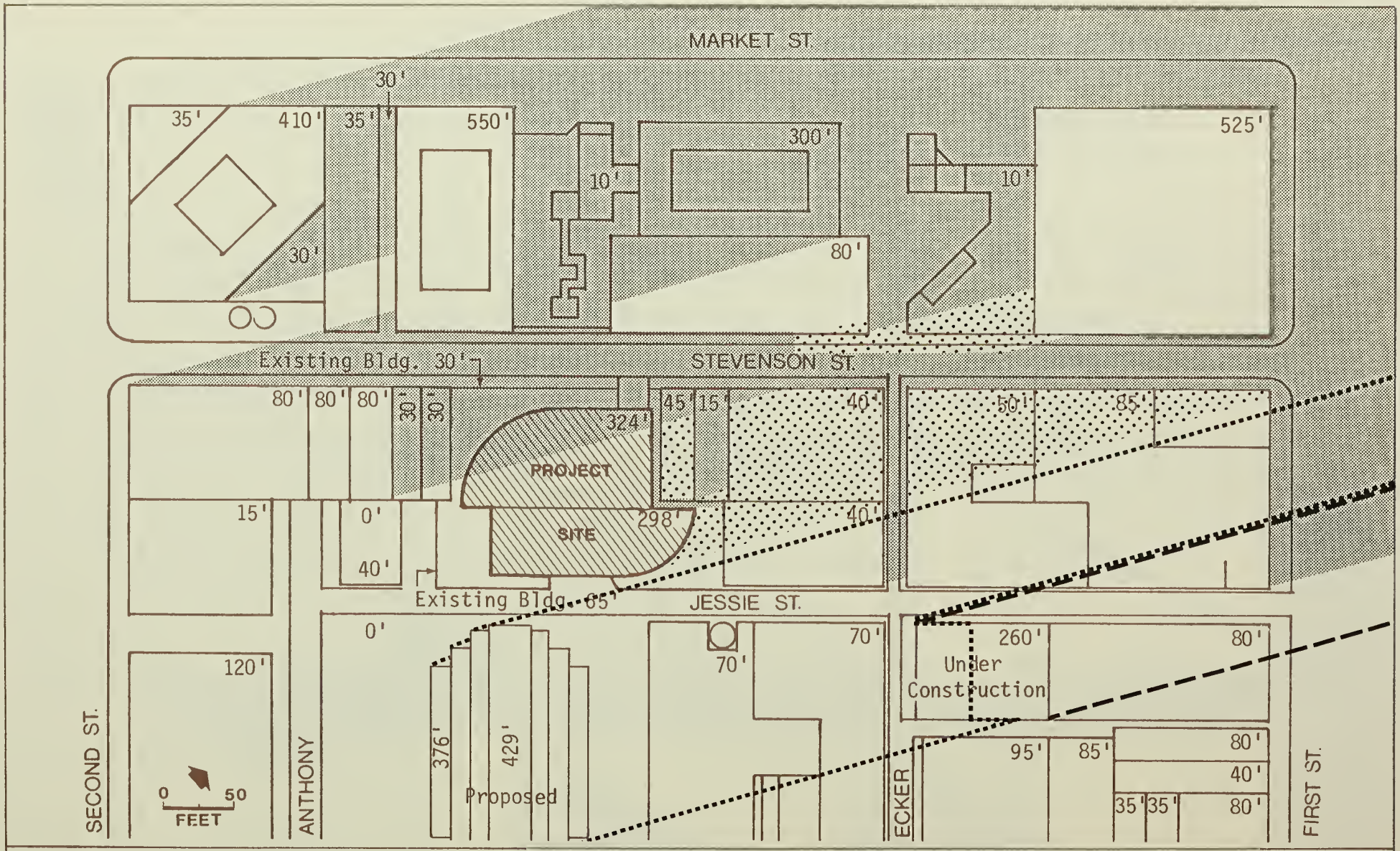
Project Shadow

Ecker Square Bldg. Shadow

One Anthony Court Shadow

FIGURE 21: Shadow Patterns – December 1 P.M.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.



LEGEND

Existing Shadow

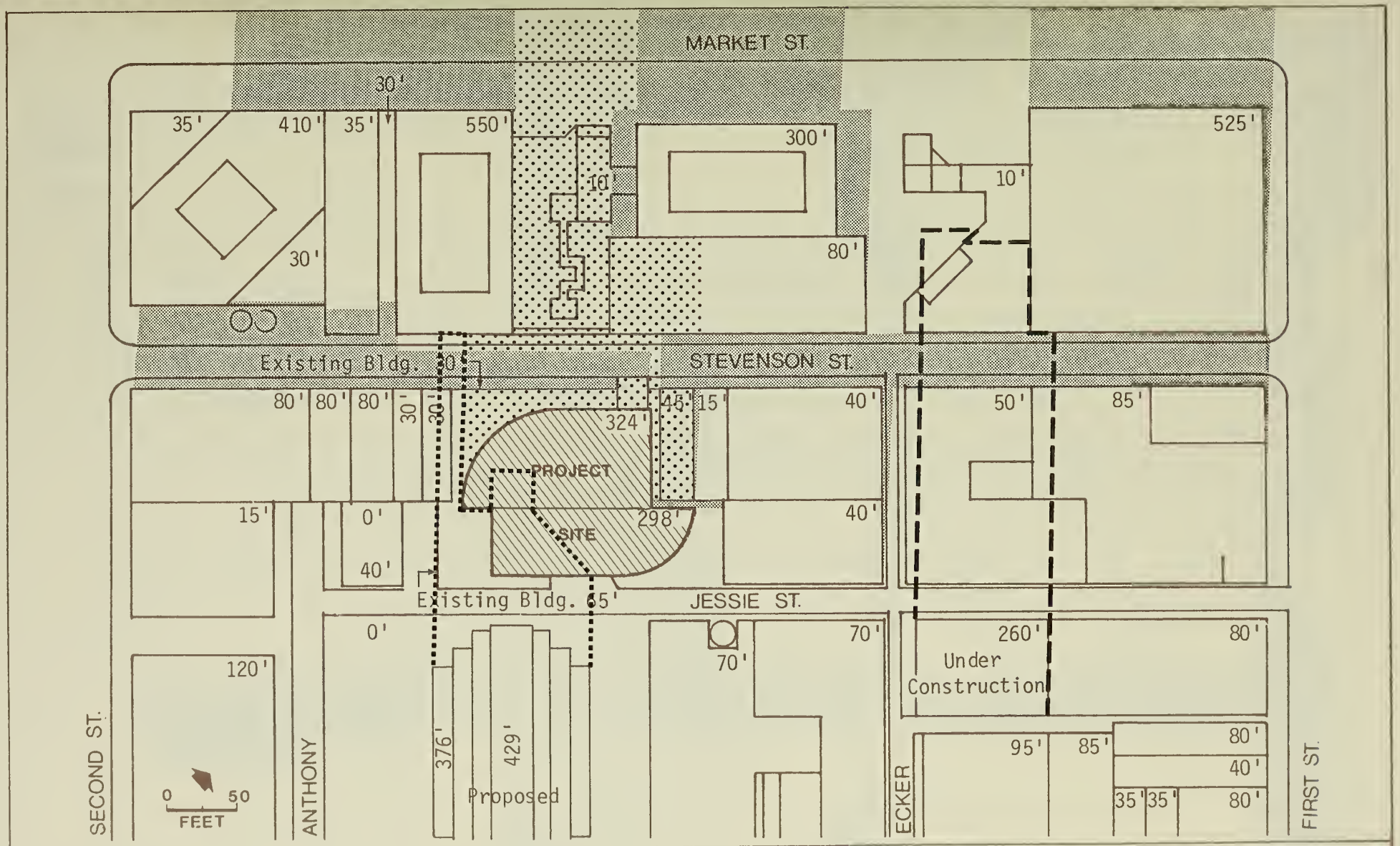
Project Shadow

Ecker Square Bldg. Shadow

One Anthony Court Shadow

FIGURE 22: Shadow Patterns – December 2 P.M.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.



LEGEND

Existing Shadow

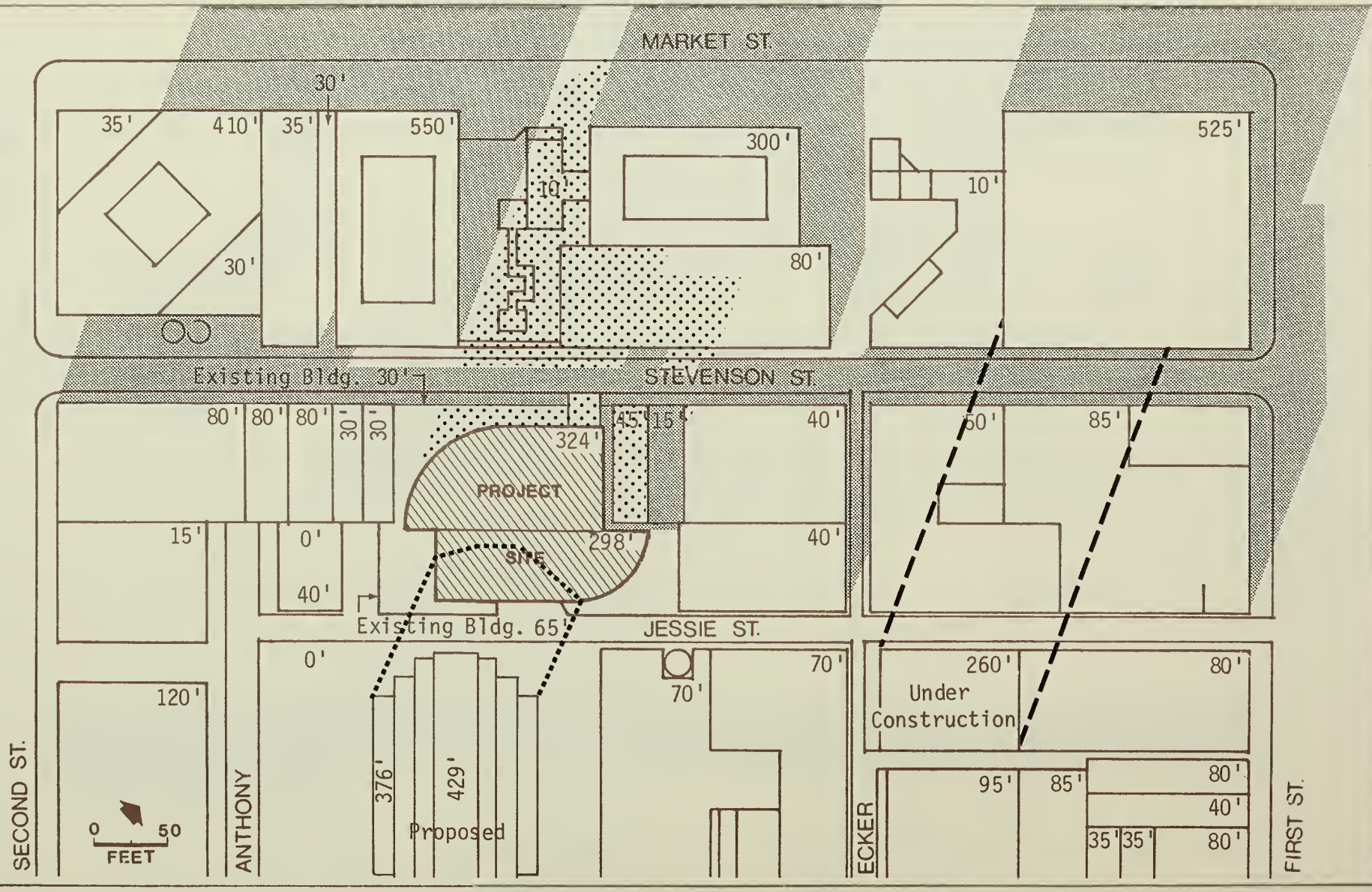
Project Shadow

Ecker Square Bldg. Shadow

One Anthony Court Shadow

FIGURE 23: Shadow Patterns – March/September 10 A.M./11 A.M.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.



LEGEND

Existing Shadow

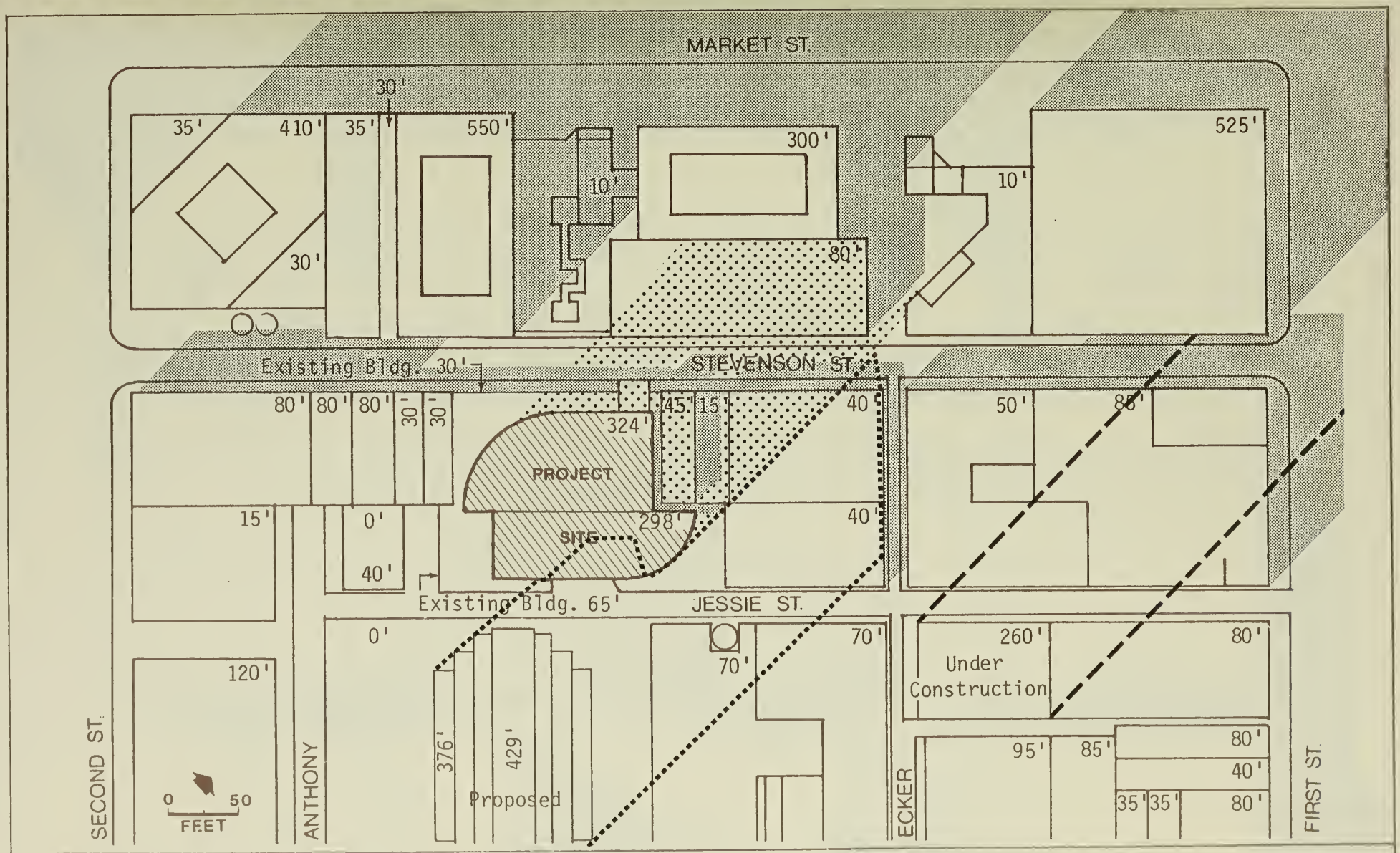
Project Shadow

Ecker Square Bldg. Shadow

One Anthony Court Shadow

FIGURE 24: Shadow Patterns – March/September 11 A.M./Noon

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.



LEGEND

Existing Shadow

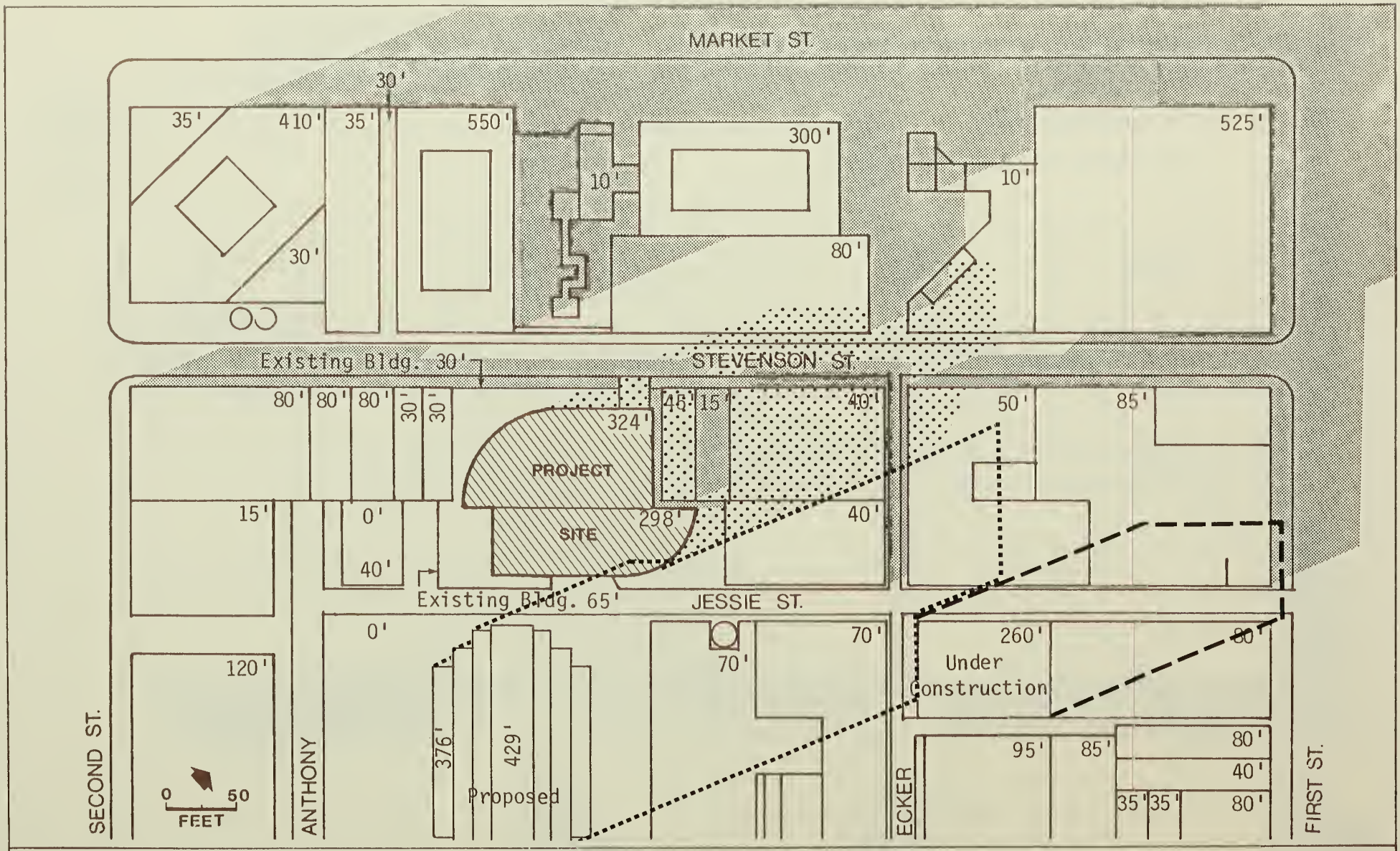
Project Shadow

Ecker Square Bldg. Shadow

One Anthony Court Shadow

FIGURE 25: Shadow Patterns – March/September Noon/1 P.M.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.

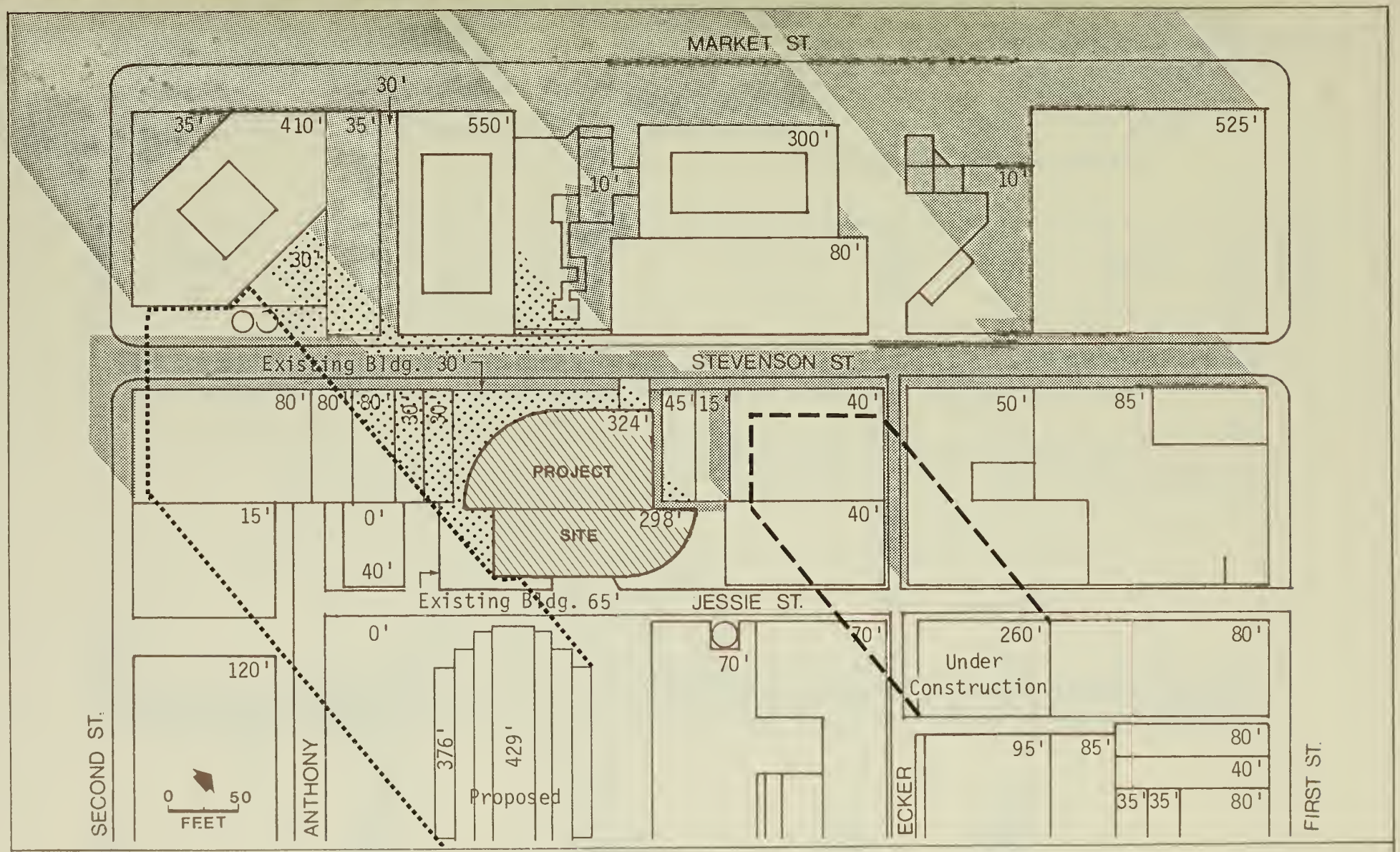


LEGEND

- Existing Shadow
- Project Shadow
- Ecker Square Bldg. Shadow
- One Anthony Court Shadow

FIGURE 26: Shadow Patterns – March/September 1 P.M./2 P.M.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.



LEGEND

Existing Shadow

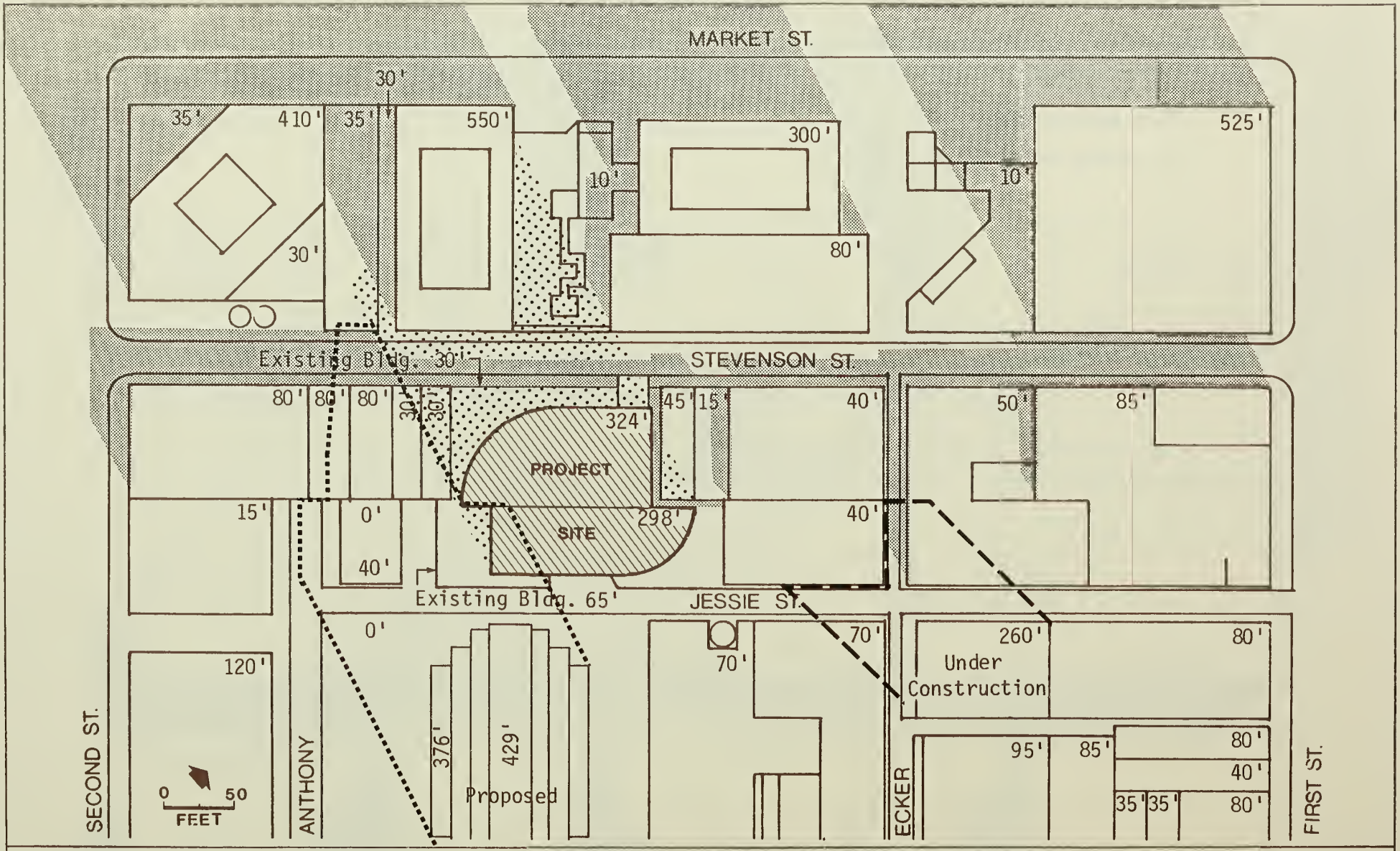
Project Shadow

Ecker Square Bldg. Shadow

One Anthony Court Shadow

FIGURE 27: Shadow Patterns – June 10 A.M. D.S.T.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.

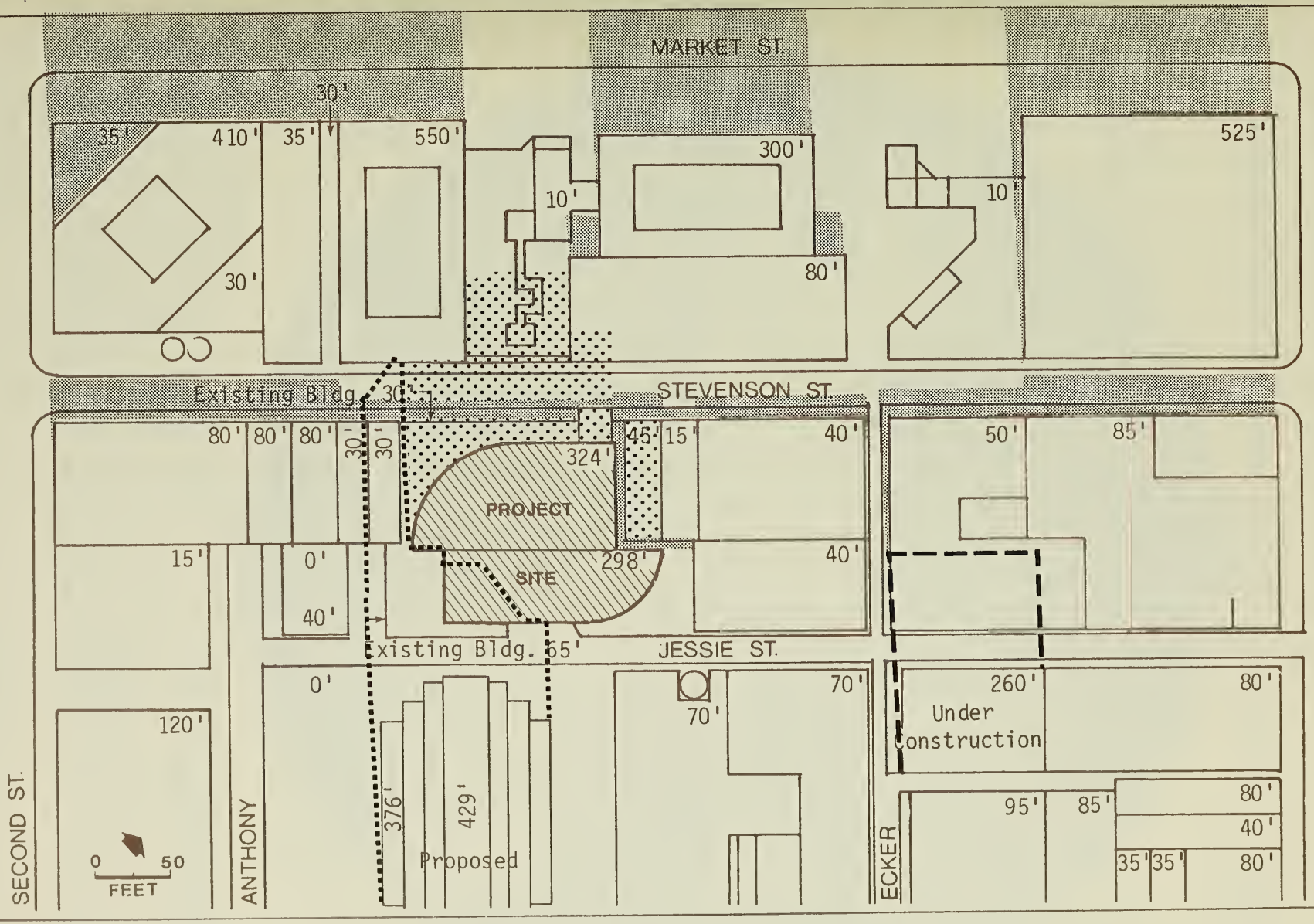


LEGEND

- Existing Shadow
- Project Shadow
- Ecker Square Bldg. Shadow
- One Anthony Court Shadow

FIGURE 28: Shadow Patterns – June 11 A.M. D.S.T.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.



LEGEND

Existing Shadow

Project Shadow

Ecker Square Bldg. Shadow

One Anthony Court Shadow

FIGURE 29: Shadow Patterns – June Noon D.S.T.

BASE MAP SOURCE: Gensler and Associates, Architects
SHADOW INFORMATION: Environmental Science Associates, Inc.

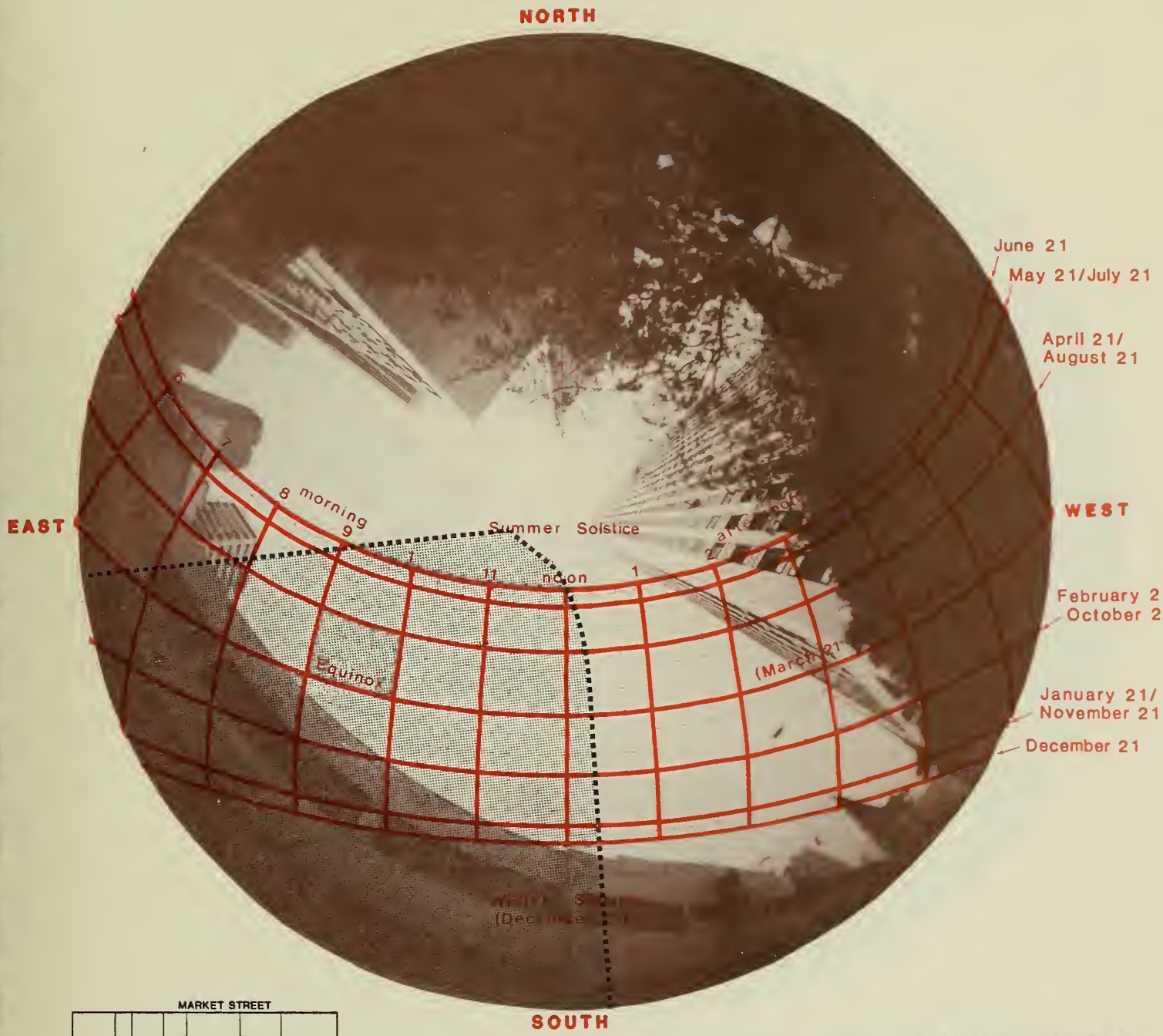
the project would not shade nearby plazas, but would shade roofs of adjacent buildings to the east.

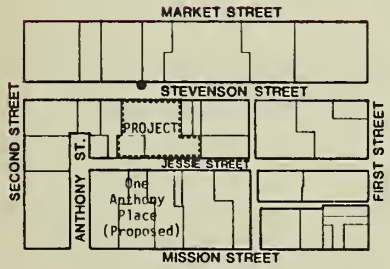
In summary, the project would cast new shadows on the Chevron Garden Plaza in winter (morning), spring and fall (morning, noontime), and summer (noontime). The rooftop of the 80-ft. portion of the Chevron Building would also be shaded. The southern portion of Tishman Plaza would also be affected during afternoons in winter, spring and fall. Other areas that would be affected by new project shadow would be the rooftops of the immediately adjacent buildings and the buildings on the same block fronting Ecker St.

Figures 30-32 depict the project in relationship to the sun throughout the day and throughout the year. The photograph from location no. 1 (on Stevenson St. between the project site and the Chevron buildings; see Figure 30, p. 69) shows that the project would intercept morning sunlight to this location all year beginning about 8 a.m. from August through April, and beginning about 9 a.m. in June. The project would remain in the sun's path until about noon all throughout the year.

The photograph from location no. 2, at the Chevron Garden Plaza (see Figure 31, p. 70) shows that the project would intercept sunlight primarily in the months October through February during the hours from 8 a.m. or 9 a.m. to about 11:30. In the months August to October and February to April, the project would intercept sunlight during the hours from about 9:30 a.m. or 10 a.m. to about 11:30 a.m. From April to May and July to August, light would be intercepted for about a half hour period around 11 a.m. Minimal light loss would occur in June from the project at this point.

The photograph from location no. 3, south of the project site on Jessie St. near Anthony Pl. (see Figure 32, p. 71) shows that the project would not be in the direct path of the sun. The One Anthony Ct. building would intercept sunlight at this point primarily during the mid-morning hours (10 a.m. to about 10:30 to 11:30 a.m.) during the months of March through August.





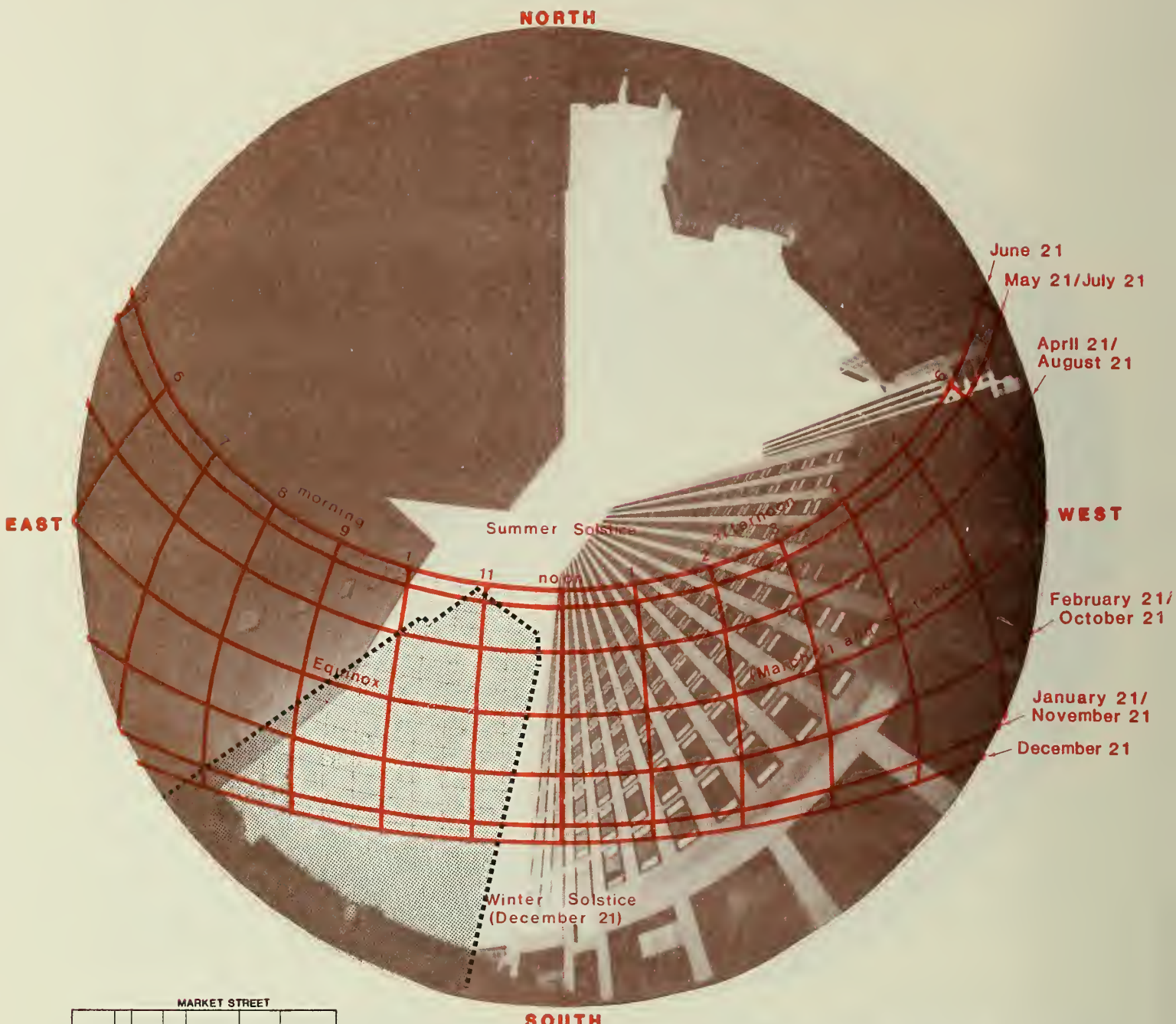
• Location of Photo

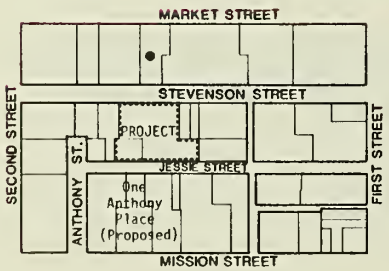
SOURCE: Donald Ballanti

SOLAR TIME (Daylight Savings Time from late April through late October would be one hour later)

Outline of Project

FIGURE 30: Sun Path Analysis
Location #1





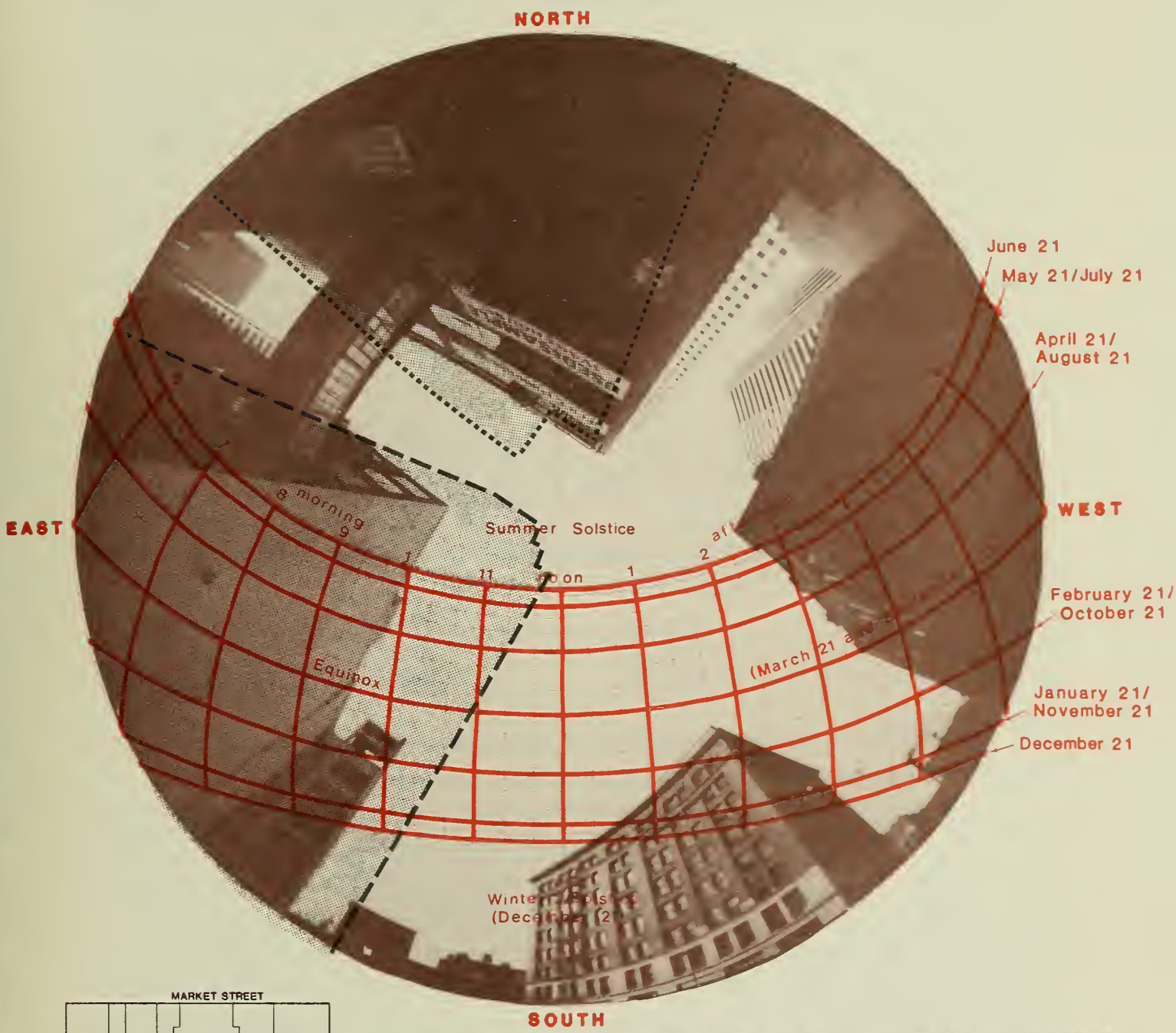
• Location of Photo

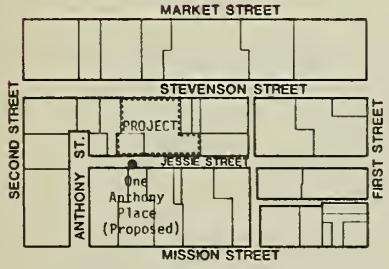
SOLAR TIME (Daylight Savings Time from late April through late October would be one hour later)

Outline of Project

SOURCE: Donald Ballanti

FIGURE 31: Sun Path Analysis
Location #2





• Location of Photo

SOLAR TIME (Daylight Savings Time from late April through late October would be one hour later)

Outline of Project

Outline of One Anthony Place (Proposed)

SOURCE: Donald Ballanti

FIGURE 32: Sun Path Analysis
Location #3

B. EMPLOYMENT, HOUSING AND FISCAL FACTORS

Direct Project-Related Employment

A projected 1,325 permanent full-time jobs would be provided by the project. Although no tenants are secured at this time, prospective tenants are anticipated to be accounting firms, corporate executives, and financial related services. Because specific tenants are unknown at this time, the projected total number of employees was derived by assuming an average number of sq. ft. per employee, by employment type (see Table 4). The net increase in employment at the site, after subtracting the five existing jobs that would relocate from the site, would be about 1,320.

TABLE 4: PROJECTED PERMANENT EMPLOYMENT AT THE PROJECT SITE

Employment Type	Building Space (Gross Sq. Ft.)	Space Per Employee (Sq. Ft.)	Projected Number of Employees*
Office	324,640	250 **	1,300
Retail	1,640	400 ***	5
Building Maintenance	360,500	20,000 +	20
TOTAL EMPLOYMENT			1,325
TOTAL EXISTING EMPLOYMENT			5
NET INCREASE ON SITE			1,320

* All numbers are rounded to the nearest five employees.
** San Francisco Department of City Planning, "Office Housing Production Program - Interim Guidelines," January 1982.
*** California Office of Planning and Research, January 1978, Economic Practices Manual, pp. 35-37.
\+ Highrise buildings generally employ one janitor per 30,000 gross sq. ft. (Roger Dillon, Secretary-Treasurer, Building Services Employees Union, Local 87, telephone communication, April 17, 1980). The 20,000 sq. ft. per maintenance employee figure includes additional service personnel, such as security guards, building engineers and window washers.

SOURCE: Environmental Science Associates, Inc.

Indirect (Secondary) Employment

Secondary employment and income would result from permanent project employment; through the multiplier effect, each employed person would generate additional employment through expenditure for goods and services. Assuming that the new jobs accommodated by the project would be primarily in finance, insurance, and real estate (the so-called FIRE sector), about 1,560 additional jobs in other sectors of the Bay Area economy would result from the growth of FIRE businesses. The total number of Bay Area jobs that would be supported by growth in downtown employment due to the project would be about 2,900 (the 1,325 project jobs plus the 1,560 jobs induced by the multiplier effect)./1/

The project would require about 125 person-years of construction labor throughout the 23-month construction period. About 195 additional person-years of employment would be generated in the Bay Area as a result of the multiplier effect of project construction./1/

HOUSING

Citywide Housing Requirements

The project could result in an increase in downtown employment of about 1,320 net new jobs, and 1,325 gross new jobs. The Office Housing Production Program (OHPP) formula for calculating housing demand caused by downtown office projects assumes that 40% of (gross) new office workers would move to San Francisco and that 1.8 office workers would occupy each household./2/ Based on this formula, the project would result in 519 new San Francisco residents from office employment; required housing would be 289 housing units (based on 324,640 gross sq. ft. of office space, excluding the ground floor with retail and lobby areas). This formula represents the basis for the City Planning Commission's policy of requiring housing to offset demand created by office developments. Another formula, recognized by the City, projects that between 15% and 30% of the new employees would be expected to move to San Francisco./3/ Based on total new on-site office employment (not retail or janitorial), the project would generate 195 to 390 new San Francisco

residents. On the assumption of 1.4 persons per household,/3/ the project would generate a demand about 140 to 280 housing units.

On January 27, 1982, the project sponsor entered into an agreement with the City and County of San Francisco to provide housing units or the equivalent (under the OHPP guidelines) for 265 of the 289 units, according to the OHPP formula, which would be required by City Planning Commission policy for the project as a condition of project approval. The project sponsor would make other arrangements to provide the additional 24 units or the equivalent under the OHPP Guidelines.

Housing Affordability

A substantiated analysis of housing affordability would require, first, determination of the number of households generated by the project preferring to live in San Francisco. This figure, in turn, would be related to net employment increase and residence location preference. As new office space would be primarily occupied by existing San Francisco businesses that would relocate, most new workers would be already employed in San Francisco./3/ Those project workers transferring from another place of employment within the City would not generate housing demand directly attributable to the project; thus, projections of housing demand attributable to the project must subtract workers already employed in San Francisco.

New employment growth due to the project would occur as new jobs were created in older buildings that would be vacated by project employees. As tenants for the project are not known, it is impossible to predict which buildings would be vacated for the project (and which buildings would be then vacated to fill the former level of vacated space, and so on). Employee movements are dynamic; all employees new to the City attributable to the project would not be directly employed within the project. For the above reasons, it is not possible to precisely quantify new employees due to the project.

The projected regional distribution of project employees is contained in Appendix C, Table C-1, p. 151. Where an employee would live is the result of individual decision-making. Such decisions are a function of location

preference and housing economics. Information concerning housing preferences would be obtainable through surveys of new office workers. Preference information is complex, involving many factors such as number of bedrooms, type of neighborhood, family composition, and commute distance to work.

Assuming that the number of new employees and their preferences for housing were known, the most critical variable affecting the housing affordability analysis would be a new household's ability to pay for housing. The salary of new workers alone is insufficient to determine housing affordability; the total income of all members of a new worker's household must be known. A variety of published sources give salaries for various occupational categories, but no comprehensive data regarding the distribution of household income among office workers (or any other group of workers) exists. Citywide household income estimates based on the 1980 Census will become available during 1983, but this data source will not reflect household income of downtown office workers.

The ratio of housing expenses to income, according to the "Office Housing Production Program (OHPP) Interim Guidelines", January 1982, are 30% of household income for rental expenses and 38% of household income for home ownership expenses. The down payment for home ownership may be assumed to be between 10% and 20% of purchase cost; however, a household's ability to afford a down payment would depend on household assets and liabilities, and would vary widely for different households. Assumptions regarding mortgage interest rates must also be made. Considering the volatility of interest rates in recent years, an affordability analysis based on current market interest rates might not be relevant when the project is completed and occupied.

Quantification of project impacts on the housing market is not possible based on available published information. A study of the "Feasibility of Performing a Housing Affordability Analysis" by Questor Associates (June 15, 1982) concludes that household income of project employees, distribution of housing demand, and magnitude of new demand can only be accurately determined by surveying occupants of buildings comparable to an office project. The study states that without such detailed information, "it is not feasible to quantify

with reasonable accuracy the housing affordability parameters associated with new office construction."/4/

Based on available data, an approximation of a housing affordability analysis appears in Appendix C, Table C-2, p. 153. Data in the table rely upon published sources of office worker incomes (not household income), and prices of housing (without regard to housing availability). Assumptions are made regarding ratio of housing expenses to income, mortgage interest rates, and down payments. Analysis based on these data and assumptions indicates that most project employees would not be able to afford ownership housing in San Francisco, although a significant minority, depending on the number of workers per household, would be able to do so. Most project employees, except the lowest-paid clerical employees desiring to live alone, would be able to afford rental housing in San Francisco.

FISCAL

Revenues

The proposed project would generate about $1.2 million in total property, payroll, sales, gross receipts and utility tax revenues to the City General Fund, which would represent a net increase of about $1,160,000 over revenues generated to the General Fund from the existing site.

Assessed Valuation and Property Taxes

Based on replacement costs, the project would have a fair market value of about $63 million (in 1982 dollars). Based on the property's full assessed (or market) value, the project would generate a total of about $630,000 in non-bond property tax revenues. An estimated property tax revenue of $595,000 would accrue to the City's General Fund. This amount would be a net increase of about $588,000 over existing ($7,000) non-bond property tax revenues to the City. The project would also generate total property tax revenues of about $48,000 ($47,400 net) to BART; $89,200 ($88,100 net) to the San Francisco Unified School District; $15,700 ($15,550 net) to the San Francisco Community

College District; and $1,500 ($1,500 net) to the Bay Area Air Quality Management District (see Table 5).

The building would also generate property tax revenues to be used to retire bond debts. The tax rate at which these revenues would be generated in 1985 would depend on the amount of principal and interest payments due in that year and the total assessed value of property in San Francisco. The rate in 1981-82 is $0.19 per hundred dollars of assessed value. If that were still the rate in 1985, when the building would be occupied, bond payment revenues from the building would be about $119,700, (1982 dollars) a net increase of about $118,200 above existing 1981-82 bond retirement revenues of about $1,500.

TABLE 5: DISTRIBUTION OF PROPERTY TAX REVENUES FROM PROJECT SITE IN 1985 (1982 dollars)

Agency	Ad Valorem Tax Rate*	Percent*	Revenues**
City and County of S.F.	$0.945	79.4	$595,262
S.F. Unified School District	0.142	11.9	89,214
S.F. Community College District	0.025	2.1	15,744
Bay Area Air Quality Management District	0.002	0.2	1,499
BART	0.076	6.4	47,981
TOTAL	$1.19	100.0	$749,700

* Rounded

** Based on the 1981-82 composite tax rate of $1.19 per $100 of assessed valuation and an assessed valuation of $63 million.

SOURCE: San Francisco Controller's Office, calculations by ESA

Payroll/Gross Receipts Tax

On August 5, 1982, the State Supreme Court ruled (City and County of San Francisco versus Farrow) that increased payroll and gross receipts taxes adopted by the Board of Supervisors (Ordinances 113-80 and 119-80) but approved by less than two-thirds of the voters in San Francisco, are constitutional and not violative of California Constitution Article XIII A.

Tenants of the proposed building would pay either the payroll or gross receipts tax, whichever is greater./5/ Assuming that 85% of the tenants would pay a payroll tax, a 1982 average wage of about $25,000 for downtown office workers/6/ and the current approval payroll tax rate of 1.5%, payroll tax revenues from the project would be about $422,300. The owners of the project would pay a 0.3% gross receipts tax on their rental income. The estimated total annual rental income for the project would be $14.1 million (1982 dollars). Gross receipts tax revenues therefore would be about $42,200. Total payroll and gross receipt tax revenues would represent a net increase in payroll and gross receipt taxes generated by the site, as no local business taxes are currently generated by the existing site (see Table 6).

The 1.5% payroll tax and 0.3% gross receipts tax are the rates that were approved by Board of Supervisor's Ordinance 118-80 and 119-80. These rates could be increased in the future if the Board of Supervisors enacted new ordinances increasing payroll and gross receipt tax rates./7/

Sales and Parking Taxes

Sales tax revenues would be generated by both employee expenditures and sales from retail uses on the site. Based on a rate of 1.25% of gross retail sales, estimated sales tax revenues accruing to the City from employee expenditures for retail goods and on-site retail sales after project completion would be $20,600. It is assumed that there is very little or no sales tax revenues generated from existing employee expenditures. However, a 15% parking tax collected by the existing garage on the site would no longer be provided to the City General Fund. Based on an annual gross receipts of $348,000, the 15% parking tax provides $52,200 to the General Fund.

Utility Taxes

General Fund revenues are generated to the City by utility taxes on water, gas, electricity and telephone. The existing site utility use is very limited and negligible revenue (under $100) to the City is generated from this tax. Based on estimates of utility use, the project would generate about $50,000 annually from utility taxes (see Table 6)./9/

TABLE 6: DIRECT NET TAX REVENUES GENERATED TO THE GENERAL FUND FROM THE PROPOSED PROJECT

Tax Category	Tax Rates (1981-82)	REVENUES: Existing Site	REVENUES: Proposed Project	REVENUES: Net Increase (Decrease)
Property Tax	79.4% of $1.19/$100 fair market value	$7,400	$595,262	$587,862
Payroll Tax*	1.5% of gross payroll expenditures	$750	422,300	421,550
Gross Receipts Tax	0.3% of total rental income	negligible	42,200	42,200
Sales Tax**	1.25% of gross retail receipts	negligible	20,606	20,606
Parking Tax	15% of gross receipts	52,200	0	(52,200)
Utility Tax*	0.5-0.55% of gross expenditures	negligible	50,000	50,000
TOTAL		$60,350	$1,130,368	$1,070,018

*See Notes 5-9 on p. 86 for sources and assumptions used to derive payroll, gross receipts, sales and utility tax revenues.
**On-site retail sales and for employee expenditures and employee expenditures are included in the sales tax category.

SOURCE: Environmental Science Associates, Inc.

Total Revenues

General Fund revenues for the City and County of San Francisco from the project would total about $1.13 million, based on the tax rates and fees in effect in late 1982. General Fund revenues from the existing uses on the site totalled about $60,300 in 1981; the project would result in about a $1.07 million net increase in General Fund revenues (see Table 6). Estimated total and net revenues accruing to the General Fund from the project site are based on 1982 tax rates and business conditions. Total revenues could change if: property tax distribution to the City and County changes in future years; payroll taxes fluctuate due to employee salaries; office and retail rents

fluctuate, thereby affecting gross receipts tax, and, if costs for utilities change, particularly telephone costs, which are the largest component of the total utility users tax.

Costs

Muni

The estimated 1980-81 (most recent Muni estimate) net marginal cost (or increase in the deficit for Muni operations) per peak-hour ride is $0.39./10/ The project would generate about 180,000 rides per year which could generate a cost deficit to the Muni of about $70,100;/10/ the annual deficit attributable to existing employment at the site is about $300. After subtracting the existing deficit, the project would result in a net deficit for Muni operations of about $69,800 per year. The project would pay for this deficit through its contributions to the General Fund. In the 1981-82 budget, 10% of Muni's revenues were allocated from the General Fund. Based on the net General Fund revenues that would be generated by the project, the contribution to Muni would be about $107,000 (1982 dollars) at project completion. Based on the marginal cost figures provided by Muni, the project would more than offset the Muni deficit generated by the project through its revenue contribution to the General Fund./10/ This conclusion should be qualified because the Muni deficit-per-mile figure is based on 1980-81 data, the marginal cost is based on all rides and not peak-period riders, and the total project-related deficit is calculated using only those workers who would use Muni as their primary mode of transportation while excluding those workers who would use a combination of transportation modes, such as Muni and Southern Pacific.

Effective April 1, 1982, the Muni fare per ride was increased from $0.50 to $0.60. The increase was triggered primarily to meet the fare box revenue requirements of Assembly Bill (AB) 1107. AB 1107 allows Muni to receive a portion of the one-half cent BART sales tax revenue for operating expenses provided that at least one-third of Muni's annual operating cost is paid from fare box revenues.

The San Francisco Board of Supervisors, on April 27, 1981, approved an ordinance (224-81) to assess new downtown commercial development to support Muni. The plan called for levying a one-time fee of up to $5.00 per gross sq. ft. upon construction of new downtown office space. The ordinance, currently in litigation, would contribute funds for Muni transit services, including capital improvements and operating costs./7/ Assuming the one-time fee is upheld, the project could generate up to $1.6 million in one-time fee revenues to Muni.

On February 1, 1982 the Board of Supervisors approved by resolution a measure declaring its intent to form a Core Area Transit Maintenance District, determining that a portion of public transit is provided Downtown in lieu of public parking places, and to impose upon real property within the area an annual payment for transit maintenance based on gross floor area. The project site is within the proposed district and would be subject to the legal assessment provisions finally adopted.

On July 12, 1982 the Board of Supervisors decided to postpone acting on the assessment district plan until January 1983. This transit assessment district may no longer be applicable since both the Mayor and Board of Supervisors have withdrawn the proposal and the Mayor may intend to substitute an increase in business taxes. The business tax increase would be in the form of a ballot measure presented to the voters; implementation would depend on voter approval (and withstanding potential legal challenges). According to a memorandum entitled "Muni's Plans to Accommodate Downtown Growth" issued by Dean Macris, Director of Planning, August 5, 1982, Muni expects to be able to meet projected cumulative demand due to downtown office development without new City taxes.

BART

In the 1981-82 fiscal year, the estimated per-paid-passenger fare deficit for BART is $1.10./11/ Based on about 93,000 rides per year, the estimated annual BART deficit attributable to the project would be $102,300;/12/ the current BART deficit generated from the existing site is $600, resulting in a net deficit of $101,700 ($102,300 - $600). The project would generate a net total

of $52,900 in revenues to BART, including $47,400 in net property tax revenues, and $5,500 from the 75% of the 0.5% BART sales tax. This amount does not include the remaining 25% of the 0.5% BART sales tax revenue distributed among BART, Muni and AC Transit by MTC. After subtracting BART's revenues from sales and property taxes which would be generated from the project, the net fare deficit of BART would be about $48,800.

BART recently increased its base fare in order to increase fare-box revenues to fund the capital improvement plan. The estimated 1981-82 per-paid-passenger fare deficit will change as a result of the increase. The change in the deficit resulting from the fare increase will be determined in October 1982./11/

Costs and Net Revenues

Costs to San Francisco for providing municipal services to the proposed project are difficult to estimate. Most evidence indicates that overall costs per unit of service provided (per sq. ft. or per employee) to the new building would be lower than for the existing buildings (see Appendix C, Table C-3, p. 156). This reduction in per sq. ft. costs is primarily due to improvements in fire and security protection systems in new construction. Costs for water and sewer service would be paid through user charges.

In general, existing public facilities, equipment, and labor are adequate to serve the project. While costs for servicing the site would increase because of the larger floor space and employment, costs per unit of service would not increase, and may actually decline.

CUMULATIVE AND INDIRECT EFFECTS

Downtown Office Space

The proposed project, together with other major downtown office buildings which are under formal review (4.2 million sq. ft.); have been approved (5.4 million); and are under construction (7.8 million) would add about 17.4 million sq. ft. of office space if all were to be built (see Appendix A,

Tables A-2 and -3, pp. 143-146). Approximately 1.3 million gross sq. ft. of space which would be demolished for new buildings, the net increase would be about 16.1 million gross sq. ft. If all 16.1 million sq. ft. of office space were to be completed by 1990, there could be a short-term cumulative impact of oversupply while the market adjusts itself to absorb the new space. During this period commercial rents would be expected to decline, especially in the core of the downtown area and vacancy rates would rise. The number of proposed new office developments could decline if there is not sufficient demand for office space presently planned or under construction, and for office space that will become available due to existing leases that will expire. The overall effect of this slowed growth rate in downtown office development would be to relieve pressure for replacement of older buildings with new ones, and for conversion and rehabilitation of existing low-intensity retail, warehouse and industrial use with office use, most notably in the South of Market area.

Housing

The relationship between downtown office growth and housing demand in San Francisco was documented in a report prepared by Recht, Hausrath and Associates, Economists, that appears as Appendix C, pp. 289-329, of the 101 Montgomery Street EIR, certified by City Planning Commission Resolution 8941, May 7, 1981. This report is available for public review at the Office of Environmental Review, 450 McAllister Street, 5th floor, and is hereby incorporated by reference into this EIR pursuant to Section 15149 of the California Environmental Quality Act (CEQA) guidelines. In summary, this document states that relatively high wages and employment opportunities are attracting people to San Francisco, but many people cannot afford the high housing costs in the City. The report estimated the residency patterns of new households that would be attributable to a new high-rise office building and discussed various employment growth assumptions and their housing market implications.

The project would comprise 324,640 gross sq. ft. of new office space as part of a cumulative total of about 16.1 million gross sq. ft. of net new office space which is now under construction, approved, or under formal review (based

on the total net new gross office space in San Francisco found in Table A-3, p. 146). The project would be about 2% of the total new office space.

If the assumptions used and explained in the 101 Montgomery Street EIR were applied to cumulative office development, i.e., 15% to 30% of the new employees generated by cumulative office development would be expected to move to San Francisco and the average household would be occupied by 1.4 downtown workers, between 6,900 and 13,800 new households attributable to new office space development would add to the housing demand in San Francisco. If the assumptions used in the formula prescribed by the Office Housing Production Program (OHPP) Interim Guidelines of January 1982 were used (i.e., 40% of the new employees attracted to the new jobs created would want to live in San Francisco and the average household would be occupied by 1.8 downtown workers), about 14,300 new households attributable to new office space development would add to the housing demand in San Francisco. These projections of new households are based on 16.1 million gross sq. ft. of net new office space, which includes all projects listed in Table A-2, p. 143. The employment and housing projections shown in Table C-1, p. 151, exclude employees in existing buildings to be demolished on the sites of proposed buildings.

This impact on the housing market would be mitigated to a certain extent because various office developers, including Highfield Stevenson Partnership, have agreed to provide units, through City Planning Commission final approval resolutions, or have proposed units on-site./13/ Table C-1, p. 151, shows the projected effects of downtown office development on the San Francisco and regional housing markets.

Cumulative office development would increase the City's current high ratio of jobs to housing supply. Housing demand would increase in an already tight housing market. In market situations where demand outstrips supply, prices can be expected to increase. Factors independent of office development and outside the control of the City, for example immigration, interest rates, State and Federal tax policies, and economic trends, also influence the housing market. Quantification of the effects of cumulative office development on San Francisco housing prices is not possible.

The new demand could be accommodated through additions to the housing stock, increases in the number of office workers per household, and/or displacement of existing residents. Large additions to the San Francisco housing stock are not anticipated in the near future because the housing construction industry has declined due to high costs and interest rates. Census data indicates that the number of persons per household has historically been declining. This demographic trend will probably not reverse itself in the next few years due to a variety of factors, including divorces and separations, departure of young adults from families, and the increasing proportion of elderly population. It has been suggested, although there is some dispute, that gentrification -- the replacement of low-income households by more affluent ones -- would occur./14/

Fiscal Considerations

Net costs of providing services to cumulative downtown development are difficult to quantify. Appendix C, Table C-3, p. 156, discusses some of the various approaches that have been attempted to address the issue of net fiscal costs of downtown development.

According to some of the studies, downtown development could result in an initial fiscal benefit. Since revenues to the City would probably increase at a slower rate than costs, due to Proposition 13 limitations on property tax increases, there could be a time when cumulative costs of providing services to currently proposed and approved development would be higher than revenues provided. This would be the case only if no new revenue sources are found, the rate of new development declines, and proposed development is not sold at some future date.

NOTES - Employment, Housing and Fiscal Factors

/1/ Projections are based on the Bay Area Input-Output Model from Cooperative Extension Service, University of California, Berkeley, San Francisco Bay Area Input-Output Model 1967-1974, July 1978. A multiplier of 1.18 was used for FIRE and 1.55 for construction.

/2/ Dean Macris, Planning Director, Department of City Planning, July 20, 1981, Memorandum. The housing formula is as follows:

$$\frac{\text{Gross square feet of office space}}{\text{250 sq. ft. per employee}} \times \frac{0.40}{1.8} = \text{number of required units}$$

/3/ The formula emerged from a study undertaken by Recht Hausrath and Associates for the 101 Montgomery Street EIR, pp. 289-329. The text and the analytic methods used in the study can be found in Appendix C of the 101 Montgomery Street Final EIR, EE 80.26, certified by the San Francisco Planning Commission May 7, 1981. The formula is as follows:

$$\frac{\text{Gross sq. ft. of office space}}{\text{250 sq. ft. per employee}} \times \frac{0.15}{1.4} \text{ to } \frac{0.30}{1.4} = \text{units of housing}$$

/4/ Questor Associates, Feasibility of Performing a Housing Affordability Analysis, June 15, 1982.

This study is on file and available for public review at the Office of Environmental Review, 450 McAllister, 5th Floor.

/5/ Tax Collector's Office, Payroll Expense Tax and Business Tax Ordinances.

/6/ Bank of Canton Final EIR, EE 80.296, certified July 15, 1982. About 15% of the tenants would be exempted from paying a payroll tax under Ordinances 118-80 and 119-80.

/7/ Buck Daventhal, City Attorney, telephone communication, September 7, 1982 and Diane Barry, City Attorney, tlephone communication, September 20, 1982.

/8/ Sales tax revenues were estimated as follows: 1) 1,325 employees x $1,096 average expenditures per downtown workers x 0.0125 (sales tax rate) = $18,153; 2) 1,635 sq. ft. of retail space x $120 gross sales/sq. ft./year x 0.0125 (sales tax rate) = 2,453; 3) $18,153 + 2,453 = $20,606 total sale revenues.

/9/ Utility user's tax revenues were calculated as follows, using 1981 utility rates:

water:	2 million cubic ft. per year x $0.00414 per cubic ft. x 5% tax = $420.
gas:	63,000 therms per year x $0.49 per therm x 5% tax = $1,500 per year.
electricity:	7.6 million KWH per year x $0.0707 per KWH x 5% tax = $27,000 per year.
telephone:	267,100 net sq. ft. x $1.40 per sq. ft. x 5.5% tax = $20,600.
TOTAL	$50,000 (rounded to the nearest $1000).

/10/ According to Bruce Bernhard, Muni Chief Accountant, telephone communication, August 10 and 23, 1982, the average $0.39 deficit per mile is based on 1980-81 Muni budget figures of an additional cost per ride (marginal cost) of $0.71 and an average fare revenue per trip of $0.32. Muni is unable to provide more recent data on cost and revenue figures per passenger. The deficit due to the existing employees at the site is: 5 employees x 29% who

ride Muni x 468 rides per year x $0.39 deficit per rider equals $265. The deficit due to the project is: 1,325 employees x 29% ride Muni x 468 rides per year x $0.39 deficit = $70,133. The 29% transportation modal split is taken from the Department of City Planning, October 1980, "Guidelines for Environmental Evaluation - Transportation Impacts." The 468 rides per year assumes 260 work days per year, two rides per day, and absenteeism of 10% (vacation, holidays and sick days).

/11/ Ward Belding, Senior Economic Analyst, BART, telephone communication, August 20, 1982.

/12/ 1,325 employees x 15% ride BART x 468 rides/year x $1.10 = $102,316.

/13/ The San Francisco Office Housing Production Program, August 19, 1982.

/14/ Report of the Citizen's Housing Task Force, San Francisco, July 29, 1982 and Berkeley Planning Associates, Displacement in San Francisco, September 2, 1980.

C. TRANSPORTATION

TRIP GENERATION

Project office and retail space would generate about 5,100 person-trips per day, 4,500 from the office space and 600 from the retail space./1,2/ The existing garage accommodates about 300 parked cars, generating an estimated 1,000 person-trips daily. The net increase in daily person-trips to the project site would be about 4,100.

P.M. peak-hour travel generated by the office and retail space would total about 940 trips. Projections of travel by mode based on the existing pattern of travel in the downtown area would distribute about 310 of these peak-hour person trips to the automobile, 250 to Muni, and the remaining 380 principally to other public transit. Of the 310 peak-hour person trips by automobile, about 20 drivers would park on site; others would compete for public parking off site.

CUMULATIVE IMPACTS (TRIP GENERATION)

A total of 17.4 million gross sq. ft. of new office space is proposed, approved or under construction in the City. Tables A-2 and -3, in Appendix A,

(pp. 143-146) show the projects included in the cumulative analysis. Approximately 1.3 million gross sq. ft. of existing office space would be replaced by the proposed development, resulting in about 16.1 million gross sq. ft. of net new office space. This growth, and the 0.5 million gross sq. ft. of net new retail construction, would generate approximately 48,000 person trip ends during the weekday p.m. peak hour.

Table 7 shows estimates of future trips generated by cumulative office development in the greater downtown area. Peak-hour travel by mode for the project and other office developments is shown in Table 8. The modal assignments have been made assuming existing travel patterns and do not attempt to predict any modal shift (see Appendix D, p. 157, for further discussion). As the bridge and freeway system serving the City is currently near capacity during peak hours and as the supply of parking is limted, the present population of persons traveling by single-occupant automobiles might be expected to change in the future. Much of the City-wide peak-hour increase might be expected to be accommodated by a shift from single-occupant automobile to ridesharing or public transit.

TABLE 7: PROJECTED PEAK-HOUR PERSON-TRIPS FOR OFFICE BUILDINGS PROPOSED, APPROVED AND UNDER CONSTRUCTION IN THE GREATER DOWNTOWN AREA AS OF AUGUST 6, 1982

Buildings*	Office (sq. ft.)**	Retail (sq. ft.)**	Peak-Hour Person-Trips
Under construction	7,427,350	136,050	21,550
Approved	4,862,600	150,310	14,880
Under Formal Review	3,476,970	243,150	10,630
71 Stevenson Street	324,600	6,000	940
TOTAL	16,091,520	535,510	48,000

* All office buildings identified as of August 6, 1982 (see Tables A-2 and -3, Appendix A, pp. 143-146. The 71 Stevenson St. project has been separated from the projects under formal review totals shown in Table A-3.
** Net new construction = Total new construction minus existing space demolished.

In this and other San Francisco EIRs, a land-use type of approach has been used to estimate employment and the resultant transportation impacts of both

the proposed project and cumulative development. An alternative type of approach is to forecast travel demand based upon regional projections of future employment (employment trend approach)./3/ Appendix D, pp. 164-167, contains a discussion of the differences between the two approaches.

TABLE 8: PROJECTED PEAK-HOUR PERSON-TRIPS BY TRAVEL MODE*

Modal Type	Projects Under Construction**	Approved Projects**	Projects Under Formal Review**	71 Stevenson St. Project	Total
Automobile	6,980	4,290	3,650	310	15,230
Muni	5,480	3,370	2,900	250	12,000
BART	3,700	2,280	1,950	160	8,090
AC	1,720	1,040	880	80	3,720
SamTrans	250	160	130	10	550
SPRR	940	580	490	40	2,050
GGT	820	500	430	40	1,790
Ferry	180	100	90	10	380
Other	1,480	1,180	1,490	40	4,190
	21,550	13,500	12,010	940	48,000

* Projections based upon distribution shown in Table D-3, Appendix D, p. 160.
** Individual projects are listed in Table A-2, Appendix A, p. 143. The 71 Stevenson St. project has been separated here from the projects under formal review totals shown in Table A-3.

PUBLIC TRANSIT

The transit analysis (conducted using Department of City Planning Guidelines) analyzed cumulative and project ridership based on existing capacity. As a "worst case", this analysis assumes no expansion in the transit system and the results are not dependent on increased City, State, or Federal funding. If existing City, State, or Federal funding were to decrease, operating conditions on the Muni and other carriers would be expected to deteriorate. Conversely, if City, State, and Federal funding were to increase over existing levels, operating conditions would be expected to improve. The estimated ridership, for the 16.1 million gross sq. ft. of net new cumulative office development and the 0.5 million gross sq. ft. of net new retail development, and for the project, and load factors based upon existing capacity are shown in Table 9. As all of the transit agencies have five-year plans for improving

TABLE 9: AFTERNOON PEAK HOUR OUTBOUND TRANSIT RIDERSHIP

Agency	RIDERSHIP			LOAD FACTOR (Existing Capacity)*			LOAD FACTOR (Proposed Capacity)**	
	Existing	Existing plus Cumulative	Existing plus Cumulative plus Project	Existing	Existing plus Cumulative w/o Project	Existing plus Cumulative with Project	Existing plus Cumulative w/o Project	Existing plus Cumulative with Project
Muni***	25,330	36,800	37,040	0.91	1.32	1.33	1.11	1.11
BART								
Transbay	13,600	18,815	18,920	0.90	1.24	1.25	0.76	0.76
Westbay	6,445	9,165	9,220	0.61	0.87	0.88	0.56	0.56
AC Transit	9,560	13,205	13,280	0.72	0.99	0.99	0.99	0.99
SamTrans	1,700	2,240	2,250	0.78	1.03	1.03	0.36	0.36
SPRR	5,180	7,190	7,230	0.78	1.10	1.09	1.10	1.10
Golden Gate								
Motor Coach	4,510	6,265	6,300	0.66	0.92	0.91	0.73	0.73
Ferry	800	1,170	1,180	0.39	0.57	0.56	0.57	0.33

*Load factor based upon existing (recommended) maximum capacity. A load factor of 1.00 is equivalent to 100% of recommended seated and standing capacity being used. Recommended maximum capacity is less than "crush" loadings that occur occasionally.
** Proposed capacity as specified by each agency's Five-Year Plan.
*** 1982 Muni ridership is approximate based on a compilation of Muni ridership by the Department of City Planning.

SOURCE: Environmental Science Associates, Inc.

service, load factors based upon capacity proposed to occur in the current five-year plan cycle (1982-1987) for each transit agency are also shown in Table 9.

Project trips and cumulative trips on all Muni lines downtown are expected to result in at least 12,000 new outbound p.m. peak hour trips. The project itself would generate approximately 250 p.m. peak-hour Muni trips. Project-generated riders during the p.m. peak hour would be about 2% of the demand from the 16.1 million gross sq. ft. of net new cumulative office development and 0.5 million sq. ft. of retail development (see Table 8, p. 89). There are about 25,300 current peak-hour riders on the 38 lines with in 2,000 ft. of the project. The total increase in peak-hour Muni patronage caused by the project would be 1%. This increase would be approximately equivalent to an average of one person on each fully loaded (considered to be 150% of seating capacity) bus and 3 persons on each fully loaded Light Rail Vehicle (LRV).

The addition of the ridership from the projected 16.1 million gross sq. ft. of office space and 0.5 million gross sq. ft. of retail spcae would cause demand on most of the affected Muni lines to exceed existing capacity. This would also be the case for BART transbay, Southern Pacific and SamTrans. As the cumulative demand increases, the length of time of peak loadings would increase, spreading peak-of-the-peak conditions over time. As some lines only operate during heavy demand periods (for example, express service for one to two hours during peak periods), there may not be additional capacity available to allow spreading over time without adding more runs. (Additional runs may not require increases in vehicle fleet size as the additional runs would be extending the peak period level of service over a longer period of time. Additional runs would cause increases in operating and maintenance costs.)

Assuming that existing funding continues and proposed expansion occurs, the future load factors on the transit agencies would be as shown in Table 9. Muni is proposing to increase systemwide capacity by 19%. Assuming the increase is to be provided uniformly, average loading including ridership from cumulative demand would be over capacity. If Muni does not apply the increase uniformly but rather gives a greater increase in capacity on the lines serving

the downtown and a lower increase in capacity on other lines, the load factor would be lower than those shown for Muni in Table 9, p. 90. BART is projecting a peak hour capacity of 16,500 seats transbay (eastbound) and 11,000 seats westbay (westbound). Recommended maximum capacity would be 24,750 and 16,500 respectively. Average loadings, including ridership from the projected 16.1 million gross sq. ft. of office and 0.5 million gross sq. ft. of retail development, would not be over capacity with the anticipated five-year plan capacity. AC Transit does not have any increases proposed for its transbay service and would therefore be operating at 99% of its recommended maximum capacity with the cumulative demand. SamTrans is proposing to have a capacity of between 4,800 and 5,000 seats per hour on its San Francisco routes. Recommended maximum capacity would be 6,250 riders. Average future loadings on SamTrans would be under seated capacity when the anticipated capacity becomes available. Southern Pacific/CalTrans does not have any proposals to increase seated capacity, but station improvements, including additional parking, are proposed. Southern Pacific would therefore operate in excess of its recommended maximum capacity with the cumulative demand. Golden Gate Transit is proposing to increase peak period (6-10 a.m.) motor coach capacity by 25% over existing levels and to increase ferry service by addition of another Larkspur Ferry (an increase of about 70% over existing service). Average future loadings (including the cumulative demand) on Golden Gate Transit would not exceed capacity when the proposed additions become available./4/

PEDESTRIANS

Upon project completion, the net increase in pedestrian travel to or from the project site during the p.m. peak-hour would be about 700 person-trips. This projection includes trips completed on public transit or in automobiles parked off-site, and deletes trips made to the existing garage on site (about 210) and trips which would be made in automobiles from the proposed on-site garage (about 30). These trips would use both Stevenson St. (about 500 per hour) and Jessie St. (about 200 per hour). Peak-hour (mid-day) pedestrian traffic on these two streets would be increased nearly 50% (400 new trips), causing Stevenson St. sidewalks to operate at about 15% of capacity. The Ecker Square Building, under construction at the corner of Ecker and Jessie Sts., is about

30% as large as the proposed project. The effect of both projects on p.m. peak-hour pedestrian traffic on Ecker St. would be noticeable as about a 15% increase. On First St. and in crosswalks at the intersection of First and Mission Sts., the increase from the two projects would be just noticeable, constituting roughly 5% to 10% of total projected p.m. peak-hour pedestrian traffic in 1985.

The effect on pedestrian traffic on Jessie and Stevenson Sts. sidewalks of the recently proposed 614,000 sq. ft. office building at One Anthony Court is uncertain. That building would produce about 1,300 net new peak-hour pedestrian trips. Stevenson St. would be a possible route to the Embaracadero subway station and to the Ferry Building for less than 300 of these trips from this proposed development. (Design details of pedestrian entrances, curb cuts, etc. have not yet been finalized for this building.) These trips from One Anthony Court would not cause pedestrian volumes on Stevenson St. sidewalks to exceed capacity.

Pedestrians would continue to use the Jessie St. roadway as a walkway, as sidewalks of adequate width would not be in place to the east and west of the project. The project would provide a 6-ft.-wide sidewalk along the Jessie St. frontage, broken by about a 40-ft. curb cut for three loading stalls.

The cumulative effect of other new development at locations within 2,000 ft. of the site would be to increase pedestrian traffic about 50% above existing peak-hour levels. This would add about 800 pedestrians to Ecker St., increasing volumes there to about 30% of capacity (see Appendix D, Table D-3, p. 132, for definitions and criteria). The flow would be somewhat impeded, but individual pedestrians would retain some freedom to select walking speed and could avoid conflicts. About 500 pedestrians per hour would be added to the western sidewalk of First St., increasing volumes there to about 30% of capacity.

The project alone would not noticeably affect the operation of the crosswalks at the Mission/First intersection, but the cumulative effect of downtown development would be to increase pedestrian traffic in the crosswalks across Mission St. to about 100% of capacity, from 65% of capacity. Reservoir space

on the northwest corner of that intersection would become crowded; about 75% of the available area would be fully used.

The project would eliminate two existing 20-ft. curb cuts on Stevenson St. which now serve the garage on the site, replacing these with a single 20-ft. curb cut. The basement-level parking garage would generate about 160 vehicular trips through the curb cut across the Stevenson St. sidewalk each day. About 20 would occur during the p.m. peak hour, or an average of one every three minutes. The number of vehicles crossing the sidewalk would be reduced from the present, because of the removal of the present 300-space parking garage.

VEHICULAR TRAFFIC

Peak-hour vehicular traffic to and from the project site and vicinity would probably not differ from existing site-related traffic. This is because, although the project would replace a 300-space garage, and would include only 34 spaces, vehicular traffic to the site in excess of parking provided would occur as pick-up and drop-off trips at the site and in the vicinity. In the downtown as a whole, vehicular traffic would increase by the number of project-related trips and trips now made to the site garage. If pick-up and drop-off trips were made on Stevenson St. there could be a net increase of vehicle trips on Stevenson St.

Cumulative vehicular and pedestrian traffic from 16.1 million gross sq. ft. of net new office development would degrade service levels at all of the intersections shown in Table 10. After cumulative development, assuming existing traffic patterns and existing modal share relationships remain constant, the freeway ramp intersections at Mission/Main and Mission/Beale would be at service level F during the p.m. peak. This would occur with or without the 71 Stevenson project. Traffic volumes through the Mission-First intersection would be increased by cummulative traffic to 71% of capacity on Mission St. and 57% of capacity on First St. (through movements only). The left-turn movement from First St. onto Mission St. would become almost impossible (service level F) due to capacity pedestrian flows in the east crosswalk of the intersection. Under the existing signal timing, Mission St.

through lanes would operate at level of service C. The congestion caused by conflicts between pedestrians and turning vehicles could not be remedied by changes to the signals.

TABLE 10: LEVELS OF SERVICE AT INTERSECTIONS IN THE VICINITY OF 71 STEVENSON ST. DURING PEAK-HOURS

	MISSION/BEALE (PM)		MISSION/MAIN (AM)		MISSION/FIRST (PM)	
	LOS*	V/C**	LOS	V/C	LOS	V/C
Existing	D	0.89	D	0.85	A	0.60
With cumulative development without 71 Stevenson***	F	1.58	F	1.27	C	0.75
Cumulative development with 71 Stevenson	F	1.60	F	1.32	C	0.75

*LOS stands for Level of Service which is defined in Table D-1, Appendix D, p. 157.
**V/C stands for volume to capacity ratio, the use of which is explained in Appendix D, p. 162.
***The 16.1 million gross sq. ft. of net new cumulative office and 0.5 million sq. ft. of retail development is listed in Table A-2, p. 143. The 71 Stevenson Street project has been separated from the approved project totals shown in Table A-3.

PARKING

The project itself would generate a demand for about 315 long-term parking spaces, and 30 short-term spaces. An additional demand for a maximum of about 300 parking spaces would be created by demolition of the existing parking garage. Thirty-four parking spaces would be provided in the basement of the proposed building. The 34 spaces provided by the proposed project would result in a net loss of 266 spaces.

The total effect of the project would be to create a demand for 610 spaces. The proposed garage would provide spaces to meet about 6% of the total demand. Through competition, many of the parkers from the project, and many of those displaced from the existing garage, would find spaces downtown,

but in so doing would displace others to transit use, to parking in peripheral areas, or to ridesharing.

Using the methodology described in Appendix D, pages 154, long-term parking demand for the 16.1 million gross sq. ft. of net new cumulative office development and 0.5 million gross sq. ft. of net new retail space in the greater downtown area has been calculated to be about 15,600 spaces (including the project). The project would represent approximately 2% of the total demand. As long-term parking demand is typically work (employee) related and is more likely to be influenced by cost rather than by location (see Appendix D, p. 157), long-term parking demand has been assumed to be distributed over the greater downtown and South of Market areas rather than being concentrated near the proposed project location. A recent survey by the Department of City Planning shows about 37,000 off-street parking spaces in the C-3 district and an additional 6,500 spaces in the area bounded by The Embarcadero, Folsom, Eighth and Bryant Sts./5/ Based upon average occupancy, about 4,100 spaces are available on a daily basis.

The cumulative demand for the whole downtown area would create a theoretical net deficit of 11,500 spaces. Parking demand has been based upon existing travel patterns and is not dependent upon the availability of parking spaces or by the ability of the freeway and bridge system to carry the additional demand. Freeway and bridge capacity into downtown is essentially fixed at existing levels, as major construction would be required to add new capacity. Therefore, the net deficit of 11,500 spaces does not mean that 11,500 autos would be driving on City streets in search of parking. Rather, the travel demand represented by the parking deficit would most likely shift to ridesharing or transit. Increased ridesharing would not only reduce parking demand but would also reduce traffic impacts from the worst-case impacts shown in Table 10, p. 95. Increased transit use would add to the demands on the regional and local transit systems, particularly Muni.

The deficit may be less than this estimate as the survey did not inventory parking in the Civic Center area, the areas west of Eighth St., south of Bryant St. or north of Washington St. The survey did indicate that inside the study area about 6,000 parking spaces have been added since 1967 and

approximately 1,400 are proposed to be added (exclusive of 4,845 parking spaces to be provided in Yerba Buena Center).

Current City policy, as stated in the Revisions to the Transportation Element of the Master Plan Regarding Parking, is to "Discourage the addition of new long-term parking spaces in and around downtown, limit the amount of new spaces to that which cannot reasonably be accommodated by transit and locate long-term parking facilities in areas peripheral to the downtown commercial district."/6/

The Master Plan Parking Policy has also stated the need to "encourage short-term use of existing parking facilities within and adjacent to the downtown core by converting all-day commuter parking to short-term parking in areas of high demand or to car/van pool parking where short-term parking demands are low."/6/ Accordingly, approximately 14,000 existing off-street spaces in the C-3-O planning district could be converted to short-term-only parking if the City enacted legislation to establish public control over private garages.

Imbalances in long-term parking demand and potential supply, given projected cumulative development and demand, would be expected to encourage the use of car pools and van pools, or the creation of satellite (intercept) parking facilities in outlying non-residential areas or in outlying cities, with shuttle or expanded Muni service to the downtown area, or increased use of transit directly for commuters from San Francisco or from suburban centers (East Bay, North Bay, Peninsula). Peninsula residents, for example, could find Southern Pacific commuter trains more attractive if they could get no closer to downtown by car than the train terminal at Fourth and Townsend Streets. All transit options would add to the demands on the regional and local transit systems, however, particularly Muni.

SERVICE VEHICLES

Three enclosed loading spaces, 35 ft. long by 12 ft. wide (minimum dimensions) would be entered by a backing maneuver from Jessie St., which is one-way eastbound. The project would receive about 70 truck and service vehicle stops

per day, or an average of four vehicles at any one time. There would be some use of curbside space, which would occur in the existing yellow zone at the site on Stevenson St. Off-street loading recommendations (per CPC Resolution 9286, January 21, 1982) call for one space per 100,000 sq. ft. of gross floor space for office use, which would result in a recommendation of three spaces for the project per CPC Resolution 9286. The Planning Code, under Article 1.5 Section 152, would require two spaces of the project.

NOTES - Transportation

/1/ The regional distribution, office trip generation, trip purpose and peak hour percentage are from Attachment 1 of the Guidelines for Environmental Impact Review, Transportation Impacts Department of City Planning, October 1980, and the modal split assignment is from Attachment 2 supplemented by survey data collected by Environmental Science Associates, Inc.

/2/ Retail trip generation is from Trip Generation, Insititute of Transportation Engineers (ITE), 1979. Rates have been adjusted from vehicle trip ends to person trip ends based upon an assumed vehicle occupancy of 1.4 persons per vehicle. The survey of retail travel was conducted by Environmental Science Associates at Embarcadero Center on Thursday, June 17, 1982 between 10:00 a.m. and 4:00 p.m.

/3/ The Department of City Planning, Office Environmental Review (OER), has issued a memorandum, dated July 2, 1982, dealing with the subject of the differences in the land-use and employment trend approaches, and recommending that both approaches be used in future EIRs to give a more balanced assessment of future peak transportation demand. This memorandum is on file with and available from the Office of Environmental Review, 450 McAllister St., 5th Floor. The memorandum calls out some of the fundamental differences between the two approaches and also details the limitations of each approach.

/4/ Muni projections from Municipal Railway Fleet Rehabilitation and Replacement Plan, San Francisco Public Utilities Commission, May 1982; BART projections from Marty Birkenthal of BART on August 18, 1982; SamTrans projections from Gregory Kipp of SamTrans on August 18, 1982; AC Transit proposals from Ted Reynolds of AC Transit on August 18, 1982; Golden Gate Transit proposals from Alan Zahradnik of Golden Gate Transit on August 19, 1982; Southern Pacific proposal from Jim Strong, Design Engineer with Southern Pacific, on August 26, 1982.

/7/ Inventory of Off-Street Parking Spaces, San Francisco Department of City Planning, May 24, 1982.

/8/ Revisions to the Transportation Element of the Master Plan Regarding Parking, Resolution 7647, San Francisco Planning Commission, January 20, 1977.

D. OPERATIONAL AIR QUALITY

Project operation would affect air quality in two ways: emissions would be generated by project-generated traffic and from combustion of natural gas for space and water heating.

Vehicular emissions would be responsible for most project-related emissions. Daily emissions of pollutants resulting from project-related vehicular traffic in 1985 are shown in Table 11.

TABLE 11: PROJECTED POLLUTANT EMISSIONS OF THE PROJECT IN 1985 (tons/day) COMPARED TO PROJECTED REGIONAL EMISSIONS

	1985 Projected Pollutant Emissions (tons/day)	
	Project*	Region**
Carbon Monoxide	0.225	2,340
Hydrocarbons	0.020	515
Nitrogen Oxides	0.029	543
Sulfur Oxides	0.003	182
Particulates	0.034	536

*BAAQMD, 1981, EMFAC6C Vehicular Emission Factors.
**Association of Bay Area Governments (ABAG), BAAQMD, MTC, 1982, 1982 Bay Area Air Quality Plan, p. 58. The region is the 9-county Bay Area Air Quality Management District.

SOURCE: Environmental Science Associates, Inc.

Roadside carbon monoxide (CO) levels for streets carrying project-generated traffic were calculated for worst-case meteorological conditions and are shown in Table 12. The only increase in CO concentrations due to the project, about 2% for the one-hour average would occur on First St. The highest one-hour and eight-hour average concentrations would occur on Mission St. No air quality standards violations are expected to occur in the area as a result of the project or projected cumulative downtown development.

TABLE 12: PROJECTED LOCAL ROADSIDE CARBON MONOXIDE IMPACTS*

Street	Averaging Time	1982	1985 Base**	1985 Base Plus Project
		(parts per million - ppm)		
First St. (north of Mission St.)	1-Hour	15.6	12.4	12.4
	8-Hour	8.5	6.7	6.7
Mission St. (west of First St.)	1-Hour	16.6	13.3	13.5
	8-Hour	9.2	7.2	7.2

*Calculations were made for worst-case dispersion meteorology according to BAAPCD (now BAAQMD), 1975, Guidelines for Air Quality Impact Analysis of Projects, Updated for CARB, EMFAC6C emission factors, 1981.
**1985 Base includes cumulative downtown development (see Appendix A, Table A-3, p. 146).

NOTE: The applicable standards are 35 ppm for one hour, and 9 ppm for eight hour average.

SOURCE: Environmental Science Associates, Inc.

Operational emissions resulting from natural gas combustion for space and water heating for the building would occur at roof level. These emissions (primarily nitrogen oxides) would be negligible relative to emissions from traffic. Electrical energy consumption would place an increased demand on local generation plants, possibly resulting in greater emissions from these facilities.

In summary, the project would add to local and regional accumulations of CO, hydrocarbons, nitrogen oxides, particulates, and sulfur oxides. The Regional Air Quality Plan found that ozone, formed from hydrocarbons and nitrogen oxides, would continue to be a problem in the Bay Area./1/ CO and particulates are also problems on a local level. Because the project would increase emissions of hydrocarbons, CO and particulates, attainment of the standards would be impeded. The project would probably have no measurable effect on citywide or regional concentrations or on the frequency of violations of the standards. Cumulative development could increase ambient concentrations and the frequency of standard violations if the control

strategies for other emission sources that are envisioned in the Air Quality Plan are not implemented.

NOTE - Operation Air Quality

/1/ ABAG, BAAQMD and the Metropolitan Transportation Commission (MTC), July 1982, 1982 Bay Area Air Quality Plan, San Francisco Bay Area, Environmental Management Plan.

E. CONSTRUCTION NOISE

Project construction would occur in three stages: demolition, excavation and building construction. Throughout the two-year construction period, trucks would visit the site, initially hauling away dirt and debris and then bringing in building materials. These trucks would be audible in the project vicinity and represent distinct noise intrusions.

The San Francisco Noise Ordinance (Section 2907b) limits noise emissions from any powered construction equipment except impact tools to 80 dBA at a distance of 100 ft./1/ All powered construction equipment would be required to comply with this regulation. If a second piece of equipment were to be used simultaneously with the first, the resultant noise level would be increased by 3 dBA, resulting in an 83 dBA noise level 100 ft. from the pair. The Noise Ordinance (Section 2908) also prohibits construction work at night from 8:00 p.m. to 7:00 a.m., if noise from such work exceeds the ambient noise level by 5 dBA at the property line, unless a special permit is authorized by the San Francisco Department of Public Works. During construction, many types of equipment are used. Typical construction noise levels are shown in Table 13.

Noise levels during construction (especially excavation and exterior finishing) would reach as high as about 70 dBA in the Golden Gate University classrooms fronting Jessie St. and in offices in the Standard Oil Building fronting Stevenson St., and 65 dBA in adjacent buildings (California Farmers Publishing, Professional Color Laboratory, Yank Sing Restaurant, Vince's Beef House, Swallow Printing). Noise levels this high would interfere with communication and concentration, requiring raised voices to communicate at 3 ft. These noise levels would interfere with classroom lecture activities of

Golden Gate University. Noise has been associated with a narrowing of the focus of attention and therefore with distraction.

TABLE 13: TYPICAL COMMERCIAL/INDUSTRIAL CONSTRUCTION NOISE LEVELS

Construction Phase	Average Noise Level*
Ground Clearing	84 dBA
Excavation	89 dBA
Foundations	78 dBA
Erection	87 dBA
Finishing	89 dBA

*50 ft. from activity.

SOURCE: D.N. May, Ph.D., 1978, Handbook of Noise Assessment, Van Nostrand Reinhold Environmental Engineering Series, p. 211.

The project would require four weeks of pile driving. The Noise Ordinance (Section 2907c) limits noise emissions from impact tools and equipment to 80 dBA at a distance of 100 ft., unless the Director of Public Works has approved intake and exhaust mufflers and shields or shrouds which provide maximum noise attenuation. To date, no muffled and/or shielded pile drivers have been approved for use in San Francisco. Thus, use of any impact-type pile driver would be in violation of the Ordinance.

Conventional unmuffled and unshielded pile drivers emit noise levels of 100 to 110 dBA at a distance of 100 ft. each time the driver strikes the pile. The lowest dBA sound level achieved has been in the high 80's at the 100-foot range. Actual noise emissions are dependent upon soil characteristics and the types of piles./2/

On the assumption of noise emissions of 100 dBA at 100 ft., pile driving would be audible to people on the streets within 1,000 ft. of the project site, where not shielded by intervening buildings. During pile driving, noise levels would reach as high as 85 dBA in the Golden Gate University and Standard Oil Buildings, and 80 dBA in the adjacent structures. Observations in humans exposed to brief sounds over about 70 dBA have shown there to be a

general constriction in peripheral blood vessels, acceleration or deceleration of heart rate, and changes in breathing, size of pupils and salivary and gastric secretions./3/ Hypersensitive and normotensive (normal) persons have shown similar degrees of response (blood pressure elevation) to noise./4/ These are symptoms indicative of a generalized stress reaction. Noise is responsible for induction of the physiological arousal characteristics of a generalized stress reaction, at levels for below that responsible for induction of hearing damage./5/ General psychological distress produced by noise can add to the overall stress of life and in this way contribute to the incidence of non-auditory disease./3/

Intermittent noises such as pile driving noise reduce the perception of control over the environment. This loss of control frequently results in a depressed mood and motivation./5/ Repeated impulse and intermittent sounds of high level appear more likely to disrupt performance than continuous or steady sounds of comparable level./6/ Disease tends to be more widespread among those exposed to sound that is unpredictable or intermittent, compared to steady or continuous sound./5/ Research on non-auditory effects of noise have dealt with chronic exposure in field research and short-term exposure in laboratory experiments. The actual non-auditory effects of short-term exposure of humans have not been well documented. Stress characteristics appear immediately upon exposure. The relationship of stress to disease incidence as related to length of exposure is not defined. Because of similarities in results between short-and long-term research, the effects described above would at most appear for the duration of the exposure. Their persistence is not well-known but it is unlikely that they would last after the period of exposure. Despite inconsistencies in studies, community noise is suggested to be associated with increases in the incidence of cardiovascular pathology and factors related to risk of cardiovascular pathology (such as elevated blood pressure)./4,5/

The operations of Professional Color Laboratory (at 96 Jessie St.), located immediately adjacent to the southwest of the site, are especially sensitive to vibrations. Should pile driving occur during business hours (8:30 a.m.-5:30 p.m.), operations would essentially be eliminated./7/ The Department of Public Works analyzes the impacts of pile driving for every project and

frequently requires staggered hours for pile driving. The most frequent requirement in commercial areas is limitation to the period 1 p.m. to 9 p.m. Evening classes are conducted during the week at Golden Gate University, located at 536 Mission St. south of the site, where evening classes are held and piledriving during these hours might possibly disrupt classes. Piledriving for the Ecker Square Building, adjacent to Golden Gate University, was limited between the hours of 12 a.m. to 6 a.m./8/ No complaints by students of noise from piledriving at the Ecker Square Building were received, nor were classes reported to have been disrupted./9/ All measures imposed by the Department are negotiable and are subject to revision during construction should circumstances require new action./2/

NOTES - Construction Noise

/1/ Decibel (dB) is a logarithmic unit of sound energy intensity. Sound waves, traveling outward from a source, exert sound pressure level (commonly called "sound level"), measured in decibels. dBA are decibels corrected for the variation in frequency response of the typical human ear at commonly encountered noise levels.

/2/ Ray McDonald, Chief Building Inspector, Bureau of Building Inspection, Department of Public Works, telephone conversation, July 6, 1981.

/3/ Effects of Noise on People, The Central Institute for the Deaf, U.S. EPA, 1971.

/4/ Hypertension Outlook: Special Report from Milan: The VIIth Scientific Session of the International Society of Hypertension, Primary Cardiology, March 1982.

/5/ Sheldon Cohen, et al., "Cardiovascular and Behavioral Effects on Community Noise," American Scientist, Volume 69, September-October 1981.

/6/ National Institute of Occupational Safety and Health, Occupational Exposure to Noise, U.S. HEW, 1972.

/7/ Mike Perrick, Owner, Professional Color Laboratory, telephone conversation, March 3, 1982.

/8/ Mithoo Baxter, Perini Construction Company, telephone conversation, September 1, 1982.

/9/ Charolette Edwards, Administrative Assistant, Public Relations, Golden Gate University, telephone conversation, September 1, 1982.

F. ENERGY

The project site is served by Pacific Gas and Electric Company (PG&E), which supplies natural gas, electricity and energy conservation assistance to its service area. PG&E obtains some of the electricity it supplies from renewable geothermal and hydroelectric sources. Coal, oil, natural gas and nuclear fuels, all nonrenewable sources of energy, are used to generate most of the electricity PG&E provides. Operation and maintenance of the existing parking garage and warehouse on the site is estimated to require annually about one billion British thermal units (Btu) of electricity./1/

Construction Energy Requirements

Removing the parking garage would require an unknown amount of energy for demolition and debris removal. Site development, fabrication and transportation of building materials, worker transportation, and building construction would require about 600 billion Btu of gasoline, diesel fuel, natural gas, and electricity; this number is based on methods presented in a recent study of construction in the U.S./2/

Operational Energy Requirements

Electricity and natural gas for project operation would be provided by PG&E; PG&E's electricity and natural gas distribution systems in the site vicinity are adequate to serve the project./3,4/ PG&E would probably meet new electrical demand primarily through increased use of coal, oil, natural gas, and nuclear fuels. Cogeneration (i.e., production of electricity from waste heat generated by industrial processes), wind turbine generators, and purchases of electricity from other utilities may also supply future electrical demand.

Electricity would be used by the project for lighting, air conditioning, ventilation, elevator operation, office equipment operation, and plumbing system pumping. Natural gas would be used to supply space and water heating via hot water boilers. Low-sulfur fuel oil would power the emergency

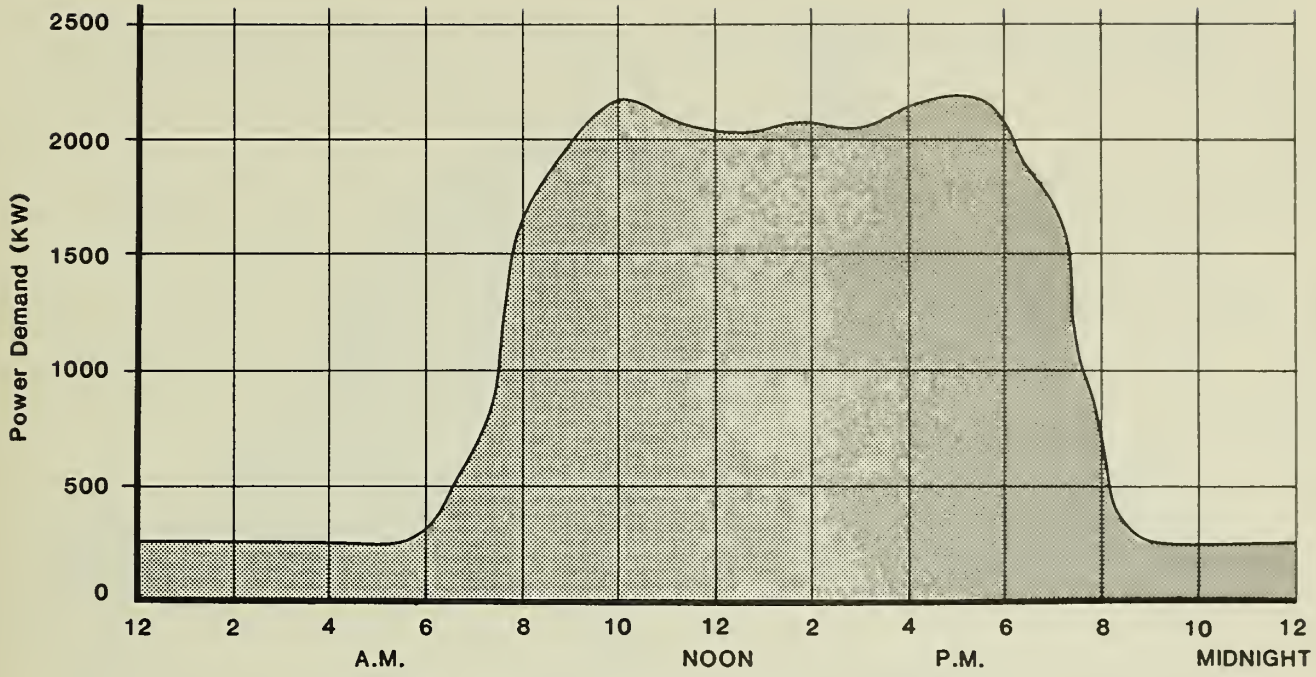
generator and fire pump. The project would make no use of solar energy or other renewable energy resources.

The project's connected kilowatt load would be about 3,000 kilowatts (kw). The project would consume about 7.6 million kilowatt-hours (kwh) (77.8 billion Btu) of electricity annually, or about 636,000 kwh per month./5/ Peak electrical demand would be about 2,200 kw, and would occur between 8:00 a.m. and 5:00 p.m. in the spring and fall. PG&E's systemwide peak electrical demand would occur in August, when the project's peak demand would be less than 2,200 kw. Peak day demand and annual electricity consumption curves for the project are given in Figure 33, p. 107.

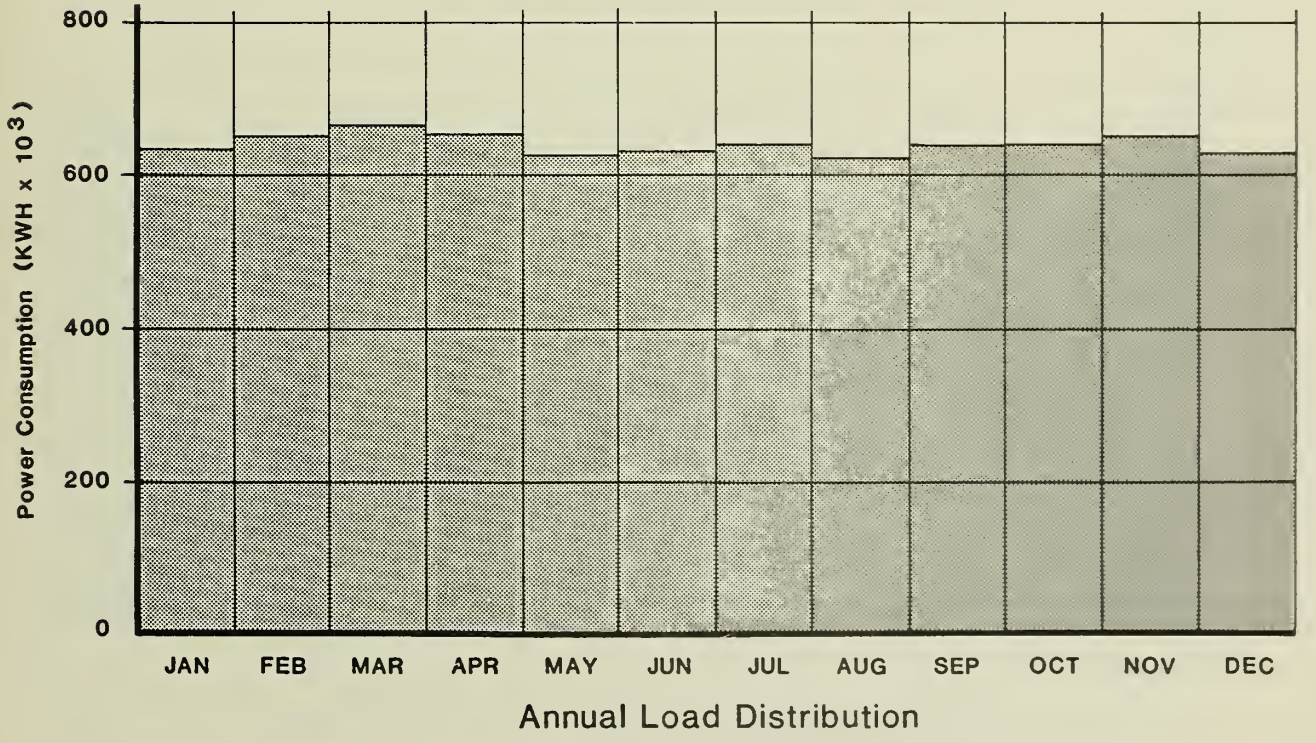
The project would consume about 5.7 million cubic ft. (6.3 billion Btu) of natural gas annually, or about 524 million Btu per month./5/ Natural gas use would peak between 6:00 and 9:00 a.m. on January mornings as the hot water boilers begin heating the building. Peak day and annual natural gas consumption curves for the project are given in Figure 34, p. 108.

The project would consume a total of an estimated 84 billion Btu annually; its energy budget would be similar to that of other office projects proposed recently for downtown San Francisco. The project's estimated per-sq.-ft. electricity requirement, 1.8 kwh per month, would be higher than an average of the estimated per-sq.-ft. requirement of 1.4 kwh per month estimated for 16 other proposed projects (see Appendix F, p. 169). The project's estimated per-sq.-ft. natural gas requirement, 1,740 Btu per month, is less than 80% of an average per-sq.-ft. requirement of 2,200 Btu per month estimated for 16 other proposed projects. The project's estimated total annual per-sq.-ft. energy requirement, about 254,000 Btu, would be about 20% greater than the average of 212,000 Btu per month estimated for the other projects.

Several aspects of the project's energy system are not yet resolved, so a comparison of the project's energy budget with the building performance standards set by Title 24 of the California Administrative Code may be premature./6/ The project could comply with the requirements of Title 24 by meeting <u>prescriptive</u> standards for insulation, weather stripping, glazing



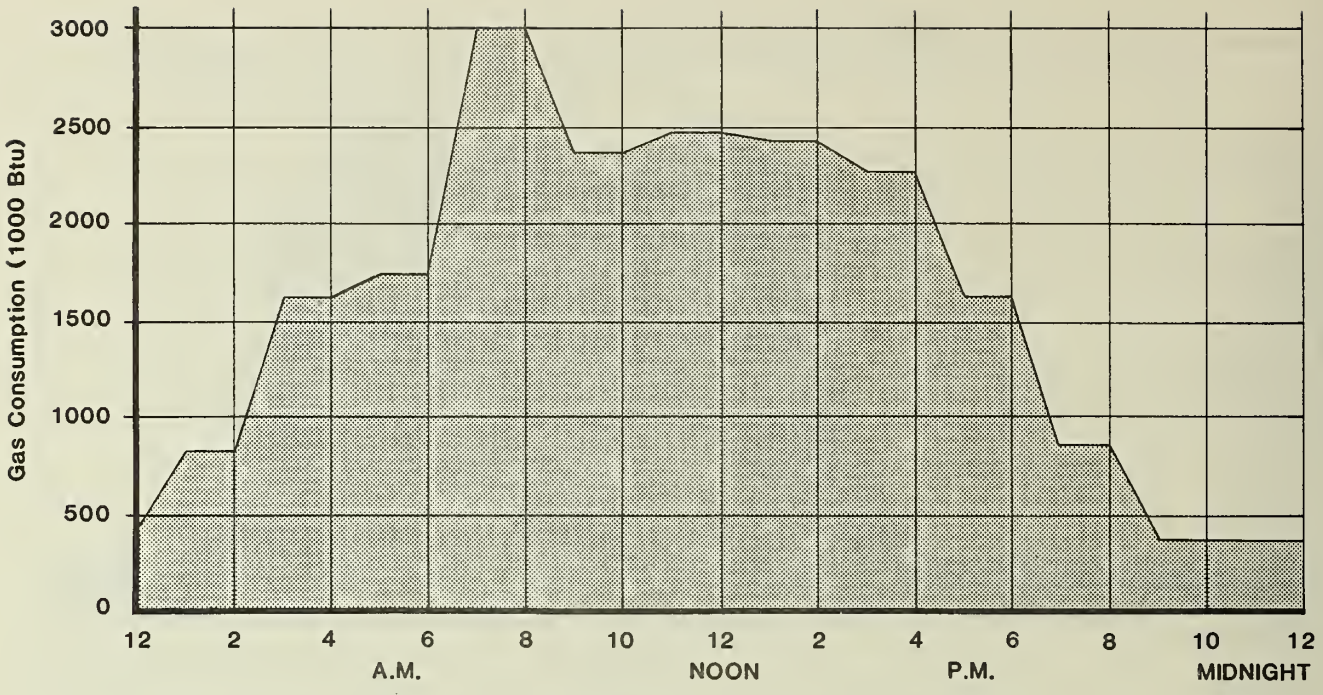
Daily Electrical Load Distribution (Peak Day)



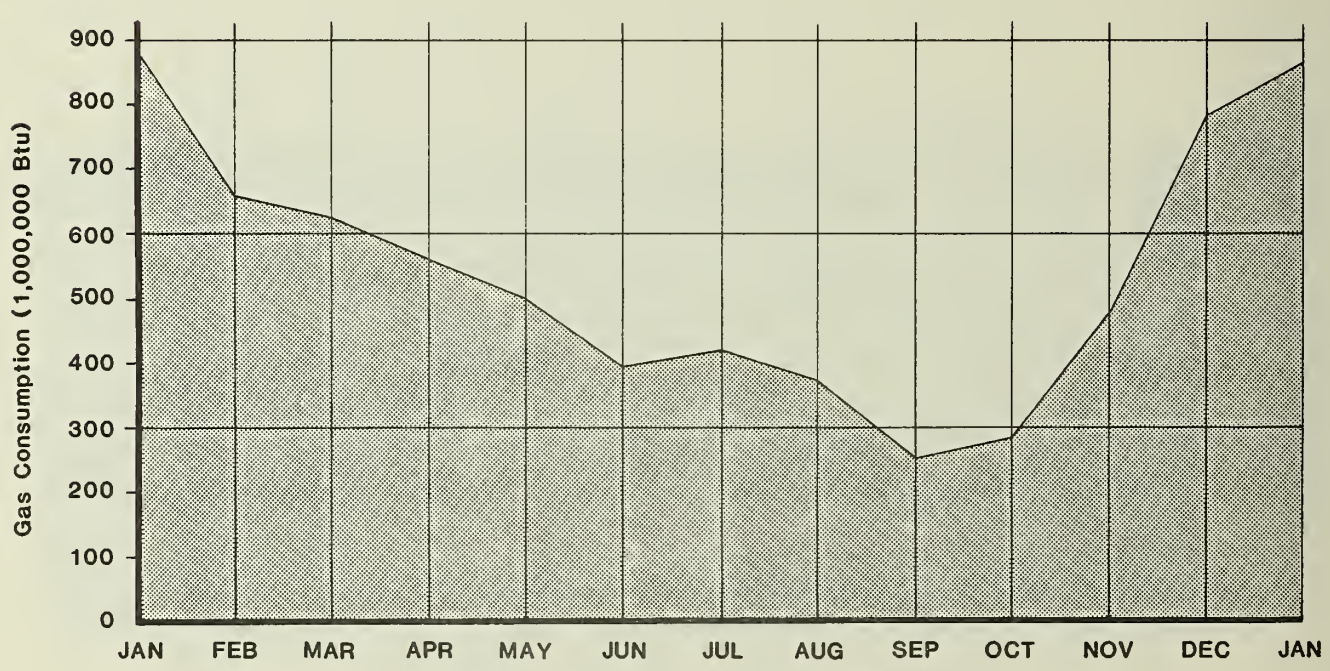
Annual Load Distribution

FIGURE 33: Projected Electrical Load Distribution Curves

SOURCE: Environmental Science Associates, Inc.



Peak Day Natural Gas Load Distribution Curve
(Based on Jan 31 Design Day)



Annual Natural Gas Load Distribution Curve

FIGURE 34: Projected Natural Gas Load Distribution Curves

SOURCE: Environmental Science Associates Inc.

area, mechanical equipment efficiency, and other energy conservation measures; or by meeting the performance standard./7/

Project-related transportation would cause additional, offsite energy consumption. Based upon the project trips described in the Transportation Section, project-related trips would require about 189,000 gallons of gasoline and diesel fuel and about 438,000 kwh of electricity (transit) annually. The total annual transportation demand, converted using at-source factors to a common unit, would be about 31 billion Btu.

Shadows from the project would decrease passive solar heating of structures northerly of the project site, primarily the Chevron Building. In winter, from 70%-100% of the Chevron Building's 14,000 sq. ft. southerly facade would be shaded during midday hours, possibly increasing that structure's heating requirements. In summer, from 50%-100% of the Chevron Building's facade would be shaded during afternoon hours, possibly decreasing that building's cooling requirements. Net energy effects from project shading of adjacent structures are unknown.

The project and other office development under review, approved, or under construction in downtown San Francisco (16.1 million sq. ft.; see Appendix A, Table A-3, p. 146) would increase electricity consumption by about 260 million kilowatt-hours per year and would increase natural gas consumption by about 403 million cubic feet per year for building operations. Transportation associated with this cumulative office development would increase diesel fuel consumption by about 8.8 gallons per year, and would increase electricity consumption by about 52 million kilowatt-hours per year. The total increase in energy demand would be about five trillion Btu annually, equivalent to about 880,000 barrels of oil per year.

NOTES - Energy

/1/ The British thermal unit (Btu) is a unit of heat energy equivalent to the quantity of heat required to raise the temperature of one pound of water at sea-level one degree Fahrenheit. All Btu values given in this section are at-source values, meaning that they have been adjusted to include the energy required for generation and distribution, as specified in Energy Conservation

and Design Manual for New Nonresidential Buildings, Energy Resource Conservation and Development Commission, 1977.

/2/ Hannon, B. et al., 1978, "Energy and Labor in the Construction Sector." Science 202: 837-847.

/3/ George Pavana, Pacific Gas and Electric Company, February 11, 1982, as reported to ESA by Dart Reinfort, Glumac and Associates, letter, February 16, 1982.

/4/ Gerald Tyson, Pacific Gas and Electric Company, February 11, 1982, as reported to ESA by Dart Reinfort, Glumac and Associates, letter, February 16, 1982.

/5/ No comprehensive building energy modeling was performed for the project. Natural gas and electricity loads for the project were estimated by the project engineers, Glumac and Associates, with data obtained from an existing building in San Francisco similar to the project in size, operating characteristics, mechanical equipment, and design features. These data were adjusted for differences in glass exposure, orientation and shading. Building occupancy was assumed to be 26 days per month; heating system efficiency was assumed to be 70%: lighting was estimated at two watts per sq. ft.: and wall receptacle loads were estimated at 0.5 watts per sq. ft.

/6/ California Energy Commission, 1980, Conservation Division Regulations Establishing Energy Conservation Standards for New Non-Residential Buildings.

/7/ Compliance with the Title 24 prescriptive standards is achieved by constructing the project in accordance with certain physical specifications such as for weatherstripping on doors and windows, and installing appliances and equipment that meet energy efficiency standards. Compliance with the performance standard is achieved by demonstrating that the building's annual energy consumption would not exceed the allowable annual energy budget specified by the California Energy Commission; the energy budget takes into consideration the mix of uses proposed, and is expressed in Btu per sq. ft. of conditioned floor area. Projects that meet the performance standard need not meet the prescriptive standard.

G. GEOLOGY, SEISMOLOGY, AND HYDROLOGY

GEOLOGY

The entire site would be excavated following demolition of the existing buildings. The proposed structure would have a 12.5-ft.-deep basement and extend to the property lines. Excavation for the basement and foundation would extend several feet below the existing basement floors. The excavation would entail the removal of about 77,600 cubic ft. of soils and debris

including all the unengineered fill and the upper portion of the wind-blown sand. The spoils would be hauled to a disposal site.

Because the sand lacks cohesiveness and is saturated at the depth of the excavation, it would have a tendency to collapse into the excavation pit if unsupported. The collapse of the pit wall could pose a hazard to construction workers in the pit and could undermine the support of the adjacent older structures, possibly resulting in damage such as cracked walls, foundations and basements; tilting of walls out of plumb; sagging of floors and bending of underground pipes. It could also result in damage to adjacent streets such as sagging and cracking of the pavement and sidewalks. During excavation and construction, pit walls would be shored and adjacent structures would be underpinned, if necessary. Dewatering would probably be required (see below - Hydrology). During construction, the building contractor would be required to comply with the San Francisco Building Code (Section 2903) and the Excavation Standards of the California Occupational Safety and Health Agency.

The site is in an area classified by the Community Safety Element of the Comprehensive Plan as a special geologic study area, because of potential ground failure hazards. Under Policy 4 of the Community Safety Element, the project sponsor would be required to conduct a geologic and soil engineering site investigation and comply with any compensating structural design recommendations based on the investigation's findings. The preliminary soils report indicates that the upper 30 ft. of soils at the site cannot support the anticipated major design loads of the structure if large, total differential settlements of the building's columns are to be avoided./1/ A deep foundation taking support in the geologic material below the Upper Bay mud (probably the dense sands below it would be suitable) would be required./1/ In compliance with Policy 4 cited above, further studies to establish the strength characteristics of the soils beneath the Upper Bay mud would be required. A driven pile foundation has been tentatively recommended; details regarding the depths to which the piles would be driven, and bearing capacities of individual piles, would be determined in future studies./1/ Vibrations generated by piledriving may damage nearby old building with shallow foundations. The extent of damage cannot be predicted as it depends on the

type and stability of each surrounding foundation and the method and duration of piledriving.

The proposed building loads would be supported by interior and perimeter columns. The interior columns would be located on column bays of about 30 ft. by 30 ft. and the perimeter columns would be located at 15-ft. intervals. The loads on these columns would be transmitted to the piles and would result in some settlement. The amount of settlement would be expected to be small (on the order of a few inches at most), depending on the design of the piles and the geologic material into which they are driven. Most of the settlement probably would occur in the first few years of the structure's existence. Studies would be undertaken to estimate the amount of settlement: design of the structure and its foundation would be based on these projections, in order to minimize the effects of the settlement on the building./1/ Such settlement would not likely affect any of the adjacent buildings in the site vicinity.

SEISMOLOGY

It is anticipated that at least one major earthquake and several moderate earthquakes would occur during the design life of the building. It must be assumed that the project site will be subject to appreciable shaking in a major earthquake.

The existing seismically substandard buildings on the site would be demolished and replaced by the proposed structures, which would be designed to meet modern seismic design standards of the San Francisco Building Code and the 1979 Uniform Building Code. The structural design of the building has not been determined; it would probably be a steel frame structure./1/ To meet current code requirements, the lateral force resisting system (that is, the structural system which would prevent the building from collapsing or toppling due to horizontal movements created by a major earthquake or strong winds) would have to resist collapse in a severe earthquake (design for about 8.0 Richter magnitude), although the frame could undergo severe damage. In a moderate earthquake (design for about 5.0 to 6.0 Richter magnitude), the structural damage would be minimized and a basically elastic behavior in all elements of the frame would be maintained. Studies would be conducted to

assess allowable lateral loads and seismic response of the site soils and structure./1/

The chief source of injury and damage within the proposed building during an earthquake would result from the fall of unattached objects and interior features such as bookcases, panel walls, light fixtures and hung ceiling panels. Some glass panels might collapse inward and injure people near the windows. Fires could be ignited within the building during an earthquake. It is possible that the Fire Department would not be able to respond to such a fire immediately and the sprinkler system might be inoperable if damage to the pipes or loss of pressure were to occur during the earthquake.

Under seismically induced building motions, some weakening of the bolts to the stone panels of the building's surface could occur. The hazard would be greatest for a major earthquake of long duration (on the order of about 10 seconds or more) which would induce building sway. With sufficient swaying motion, some panels could be damaged, causing chunks of stone to fall to the street. The swaying could also cause some glass panels to break loose and fall whole or in pieces. The falling debris would create a hazard to pedestrians on the sidewalks and streets and cause numerous injuries and death. Whole panels of glass create an additional hazard beyond the immediate building site because they tend to "float" while falling, that is, glide horizontally from side to side like a falling leaf. Some panels might float away from the building for several tens of feet depending on wind conditions and on the size, shape and weight of the glass.

There are no requirements in the San Francisco Building Code specifying the seismic response of window glass. The glazing, panels and exterior walls, as well as their connections, are considered to be part of, or an attachment to, the structure's exterior wall and are required to resist lateral loads, primarily related to wind shear but also to a major earthquake of 7.0 or greater magnitude, as specified in the Code.

It is likely that in a major earthquake many surface streets and freeways would be closed due to damage or debris blockage. Building occupants could be forced to remain in the building for an indeterminate period, perhaps up to

48 hours. The San Francisco Building Code requires that emergency water supplies be stored in the building and that a power generator be incorporated into the plans.

HYDROLOGY

During excavation and construction, dewatering of the site probably would be required as the excavation pit would extend below the water table. The extent of the dewatering requirements has not been estimated. Dewatering could create problems for adjacent buildings streets and utility lines. Major dewatering can produce settlement of soils in the site vicinity. Old buildings with shallow foundations could be damaged by differential settlement, resulting in cracked walls and floors, walls leaning out of plumb, floors tilting or sagging, and windows and doors that cannot be opened or closed. Streets could develop swales, cracks or "potholes." Underground utility lines may bend or break. Depending on the extent of dewatering, the Department of Public Works generally requires that a surety bond be posted before issuance of a permit for excavation. The construction contractor would be held responsible for any damage that might result from dewatering. An additional problem could arise from dewatering if any of the buildings in the area of drawdown of ground water are supported on wood pilings. Wood pilings, normally located in saturated soils, could be subjected to bacteria and rot if groundwater is removed and they are exposed to air in the soil. Rotting wood piles could result in a weakening of the overall support of the building foundation. It is not known if any buildings in the site vicinity obtain support from wood pilings.

The length of dewatering has not been estimated; it would be a temporary procedure. The site is located far enough away from the Bay that salt water intrusion would not likely result from dewatering. The temporary lowering of groundwater levels probably would not have a permanent impact on groundwater conditions in the vicinity. Past experience with dewatering in the South of Market area indicates that groundwater conditions would probably return to normal, following cessation of dewatering.

The project would not have any effect on runoff from the site, as the amount of impervious surface would not be changed. Increased vehicular traffic would result in increased deposits of oil, heavy metals, gasoline and other pollutants on City streets. These pollutants would enter the storm drain system and could eventually reach San Francisco Bay.

NOTE - Geology, Seismology and Hydrology

/1/ Lee and Praszker, Consulting Geotechnical Engineers and Geologists, January 29, 1982, Preliminary Geotechnical Investigation, Proposed Stevenson Street Office Building, San Francisco, California.

H. EMERGENCY RESPONSE PLAN

The Mayor's Office of Emergency Services (OES) is preparing an emergency response plan to be implemented in the event of an earthquake or other emergency. The plan will identify roles and responsibilities of government agencies which would be involved in the event of a city emergency./1/ Included in this plan are a series of casualty and mass care centers that have been established on a district basis and would provide first aid and essential social services to injured and displaced persons (see Appendix G, p. 170, for a list of these facilities).

Cumulative highrise development proposed for the downtown area would increase the number of persons working downtown. This would result in a greater demand for medical care and social services in the area if a disaster were to occur during working hours. In addition, street congestion would probably intensify due to the increased number of people concentrated in the Financial District. This would interfere with the prompt response of emergency vehicles due to route delays and detours caused by crowded streets.

The effectiveness of the City's emergency response plan would therefore depend, in part, on an informed public's ability to know what to do and where to go in the event of an emergency.

The Office of Environmental Review (OER) and the Mayor's Office of Emergency Services (OES) have developed a measure which recommends that project sponsors

or building management staff develop evacuation and emergency response plans for all new high-rise buildings. OES would review the plans to ensure coordination with the City plan. An emergency response plan is proposed as part of the project, and this plan would be subject to review by OES.

NOTE - Emergency Response Plan

/1/ Tom Jenkin, Architect, Mayor's Office of Emergency Services, telephone conversation, January 12, 1982.

I. GROWTH INDUCEMENT

The project would add about 324,640 gross sq. ft. of office space and about 9,220 sq. ft. of retail space and would remove about 20,770 gross sq. ft. of warehouse space and about 300 parking spaces from the South of Market area. Employment at the site would increase by about 1,330. Occupants of the proposed project are unknown, but could include tenants from other San Francisco locations, tenants who could relocate from outside San Francisco, and firms new to the Bay Area. The increase in employment at the project site, therefore, would not necessarily represent employment that is new to San Francisco. If the project is fully leased, however, and the availability of its space does not create permanent vacancies in other San Francisco office buildings, total employment in San Francisco would eventually increase by about 1,335 jobs due to the project.

This growth would be in response to the increasing demand for office space located in San Francisco's Financial District. This demand would exist whether or not the proposed project is built. The demand for office space continues the trend of growth in service sector and headquarters office activities and employment. The increase in downtown office space and employment would contribute to the continued growth of local and regional markets for housing goods and services.

It is expected that many downtown workers would want to live in San Francisco. Employment growth, however, would not correspond directly to increases in demand for housing and city services to residents, as some new

jobs would be held by individuals who already live and work in the City; or who live in the City but who previously either did not work, or worked outside the City, or who live in surrounding communities.

Any net increase in employment downtown would increase the demand for retail goods and food services in the area. The project would intensify this demand, which would be met, in part, by retail space proposed to be incorporated in the ground floor of the project.

Increases in employment downtown would also increase demand for business services, to the extent that the expanded space would not be occupied by firms providing those services. In response, demand would increase for existing space and possibly for further new development. No expansion to the municipal infrastructure not already under consideration would be required to accommodate new development and increased employment due to, or induced by, the project.

V. MITIGATION MEASURES PROPOSED TO MINIMIZE THE ADVERSE EFFECT OF THE PROJECT

Mitigation Measures currently proposed as part of the project. under consideration or rejected by the project sponsor are listed below. Where a measure has been rejected, the sponsor's reasons for rejection are given. Mitigation Measures listed in the initial study are included in this section.

URBAN DESIGN

MEASURES PROPOSED AS PART OF THE PROJECT

- To enhance the pedestrian environment, the project sponsor would provide landscaped plazas and a retail arcade that would facilitate pedestrian access through the project site (no pedestrian amenities currently exist on the project site).

- The curved form of the building would permit more sunlight on the Chevron Garden Plaza than would a rectangular building form; the top of the building would have a stepped-down configuration in accordance with Guiding Downtown Development.

CULTURAL

MEASURE PROPOSED AS PART OF THE PROJECT

- Should evidence of cultural or historic artifacts of significance be found during project excavation, the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board would be notified. The project sponsor would select an archaeologist or other expert to help the Office of Environmental Review determine the significance of the find and whether feasible measures, including appropriate security measures, could be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend specific mitigation

measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendation and retrieval, if appropriate.

- The project sponsor would photographically record, according to National Architectural and Engineering Standards, all buildings on the project site rated by Heritage.

HOUSING

MEASURES PROPOSED AS PART OF THE PROJECT

- On January 27, 1982, the project sponsor entered into an agreement with the City and County of San Francisco to provide housing units or the equivalent (under the OHPP Guidelines) for 265 of the 289 units, according to the OHPP formula, which would be required by City Planning Commission policy as a condition of project approval. The project sponsor would make other arrangements to provide the additional 24 units or the equivalent (under the OHPP Guidelines).

TRANSPORTATION

MEASURES PROPOSED AS PART OF THE PROJECT

- A transportation broker would be designated to develop and implement a transportation management program.

- The project sponsor has agreed to contribute funds for maintaining and augmenting transportation service, in an amount proportionate to demand created by the project, as provided by Board of Supervisors Ordinance No. 224-81 or any subsequent equitable funding mechanism developed by the City.

- The project sponsor would encourage transit use by providing for on-site sale of BART tickets, Muni, and Golden Gate Transit passes.

- The project sponsor would encourage a tenant carpool/vanpool system by providing a central clearing house for carpool information in cooperation with Rides for Bay Area Commuters.

- The project sponsor would provide secure and safe bicycle parking, one space for handicapped parking, and handicapped access facilities relative to the demand generated by project users.

- The project sponsor would encourage tenants of the project to practice flex-time for their employees to reduce the peak demand on roads, bridges and transit systems.

- Within a year of full occupancy of the project, the project sponsor would conduct a survey, in accordance with methodology approved by the Department of City Planning, to assess actual trip generation patterns of project occupants and actual pick-up and drop-off areas for car pools and van pools. The project sponsor would make this survey available to the Department. Alternatively at the request of the Department, the sponsor would provide a fair and equitable in lieu contribution toward an overall transportation survey for the downtown area to be conducted by the City.

AIR QUALITY/CLIMATE

MEASURES PROPOSED AS PART OF THE PROJECT

- During excavation, unpaved demolition and construction areas would be wetted twice a day to hold down dust; if this were done at least twice a day with complete coverage, particulate emissions (dust) would be reduced about 50%.

- The general contractor would use water-based or latex paint on all interior drywalls painted rather than oil-based paints which emit hydrocarbons while drying. This would reduce hydrocarbons from drying paint by about 60 percent.

- The general contractor would maintain and operate construction equipment so as to minimize exhaust emissions.

- During construction, drivers of trucks in loading or unloading queues would turn off their engines to reduce vehicle emissions.

CONSTRUCTION NOISE

MEASURES PROPOSED AS PART OF THE PROJECT

- The project contractor would muffle and shield intakes and exhausts, shroud or shield impact tools, and use electric-powered rather than diesel-powered construction equipment, if possible.

- The project sponsor and project contractor would meet with the Bureau of Engineering to determine necessary and feasible measures to reduce noise during the period that piledriving would occur, including the predrilling of holes for piles to the maximum feasible distance to minimize piledriving activity.

- The project contractor would limit piledriving to the hours resulting in the least disturbance to the greatest number of neighboring uses.

MEASURES UNDER CONSIDERATION

- The project sponsor could notify Golden Gate University of piledriving to aid the University in scheduling no classes in classrooms fronting Jessie St. during piledriving hours.

MEASURES REJECTED BY THE PROJECT SPONSOR

- The project contractor would construct acoustical sound barriers over north windows of classrooms of Golden Gate University.

ENERGY

MEASURES PROPOSED AS PART OF THE PROJECT

- Wherever possible, office suites would be equipped with individual light switches, fluorescent lights and other energy-saving devices as appropriate to conserve electric energy.

- Building heating, ventilation and air-conditioning (HVAC) systems would be maintained by the building management at the lowest rates consistent with code requirements and industry standards to reduce heating and cooling loads.

- Electricity would be distributed within the building at 480/277 volts and stepped down with dry transformers where necessary for 110-volt outlets. Installed lighting would operate primarily at 277 volts. These measures would reduce distribution losses and increase efficiency of energy use.

- The building envelope would be designed to reduce energy consumption by minimizing solar heat gain while maximizing daylighting.

MEASURES UNDER CONSIDERATION

- The project sponsor could install an active solar water heating system to reduce natural gas consumption.

- Elevators could use solid-state motor controllers to conserve energy when elevators are at rest.

- The project sponsor and project engineer could meet with the Energy Conservation Department of the PUC to discuss measures that could be taken to conserve energy.

- Within 18 months of full occupancy, the building operator could provide the Department of City Planning with monthly natural gas and electricity consumption data for a 12-month period. If this data were to indicate

that energy consumption exceeded the applicable state standards, the building operator could have the building's energy performance audited by PG&E or another certified contractor, and could implement all recommended energy conservation measures having a payback period of 10 years or less. Results of the audit could be available to the City.

MEASURES REJECTED BY THE PROJECT SPONSOR

- The project sponsor has rejected using PG&E's steam heating district because of its high project sponsor operating costs compared to those of natural gas heating.

- The project sponsor has rejected the use of openable windows because they allow high air infiltration rates that increase heating and cooling loads, and because of the lack of adequate particulate filtration with this type of ventilation.

GEOLOGY, SEISMOLOGY AND HYDROLOGY

MEASURES PROPOSED AS PART OF THE PROJECT

- A detailed foundation and geotechnical study would be conducted for the building by a licensed foundation and geotechnical consultant. The project sponsor would follow the recommendations of this study during the final design and construction of the project.

- During construction, the project contractor would sweep streets to prevent siltation of storm drains.

- The project sponsor would have a dynamic analysis of the proposed structure prepared to ensure that the structure would be able to resist the lateral forces induced by a major earthquake.

- Windows would be installed so as to minimize the possibility of breakage during an earthquake, and to maximize the possibility that glass would fall inward, rather than outward, should windows break.

- If dewatering were necessary, groundwater observation wells would be installed by the contractor to monitor the level of the water table and other instruments would be used to monitor potential settlement and subsidence. If, in the judgement of the City engineers, unacceptable subsistence occurs during construction, groundwater recharge would be begun to halt settlement. This might cause a delay in construction.

- Nonstructural elements of the building, such as hanging light fixtures, bookcases, ceiling and wall partitions, and mechanical equipment would be attached firmly in a manner to reduce the likelihood of their falling during an earthquake.

MEASURES UNDER CONSIDERATION

- A survey of surrounding buildings could be conducted to determine if any of them are supported by wood pilings or have foundations subject to damage by differential settlement which might result from dewatering. Should dewatering be necessary, subsidence in surrounding buildings and streets could be monitored by the project sponsor to insure that damage is kept to a minimum. Dewatering could cease should excessive subsidence occur. If damage were severe the sponsor could be required, by the Department of Public Works, to pump the water back into the ground to stabilize the subsidence. If adjacent structures are supported on wet wood piles, a method could be devised to keep the piles moist during construction.

- The project sponsor could prepare an information packet for tenants including directions for occupants' activities in an earthquake and recommendations for reducing the hazards of falling objects (such as ways to secure bookcases and panels so they do not topple over).

EMERGENCY RESPONSE PLAN

MEASURES PROPOSED AS PART OF THE PROJECT

- An evacuation and emergency response plan would be developed by project sponsor or building management staff, in consultation with the Mayor's Office of Emergency Services, to ensure coordination between the City's emergency planning activities and the project's plan and to provide for building occupants in the event of an emergency. The project's plan would be reviewed by the Office of Emergency Services and implemented by building management before issuance by the Department of Public Works of final building permits.

- To expedite implementation of the City's emergency response plan, the project sponsor would provide information to building occupants concerning what to do in the event of a disaster.

UTILITIES AND PUBLIC SERVICES

MEASURES PROPOSED AS PART OF THE PROJECT

- To reduce the demand on police protection services, the project would incorporate internal security measures which might include such features as a 24-hour staffed guard station in the lobby area, closed circuit television cameras and internal security personnel, and well-lighted entries.

- The project sponsor would provide new project tenants with a fire and earthquake safety orientation program and evacuation plan.

VI. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

URBAN DESIGN

Portions of the Chevron Garden Plaza and the Tishman Building Plaza that are unshaded under existing conditions would be shaded by the project for limited periods. The most extensive new shadows would occur in March/September in the morning hours.

TRANSPORTATION

The project would add directly about 315 person-trips on the Muni system during the p.m. peak hour. The project would generate a demand for about 420 long-term parking spaces and 80 short-term spaces; an additional demand for a maximum of about 300 parking spaces would be created by the demolition of the existing parking garage.

CUMULATIVE OFFICE DEVELOPMENT

The project would be part of a trend of a denser development in Downtown San Francisco. Cumulative increases in the amount of office space would continue regional growth in service-sector and office headquarters activities and employment. The project would contribute to cumulative traffic increases Downtown and cumulative increases in passenger loadings on BART, Muni and other transit agencies, and cumulative pedestrian circulation within the vicinity of the project site.

VII. ALTERNATIVES

A. NO PROJECT

This alternative would entail no physical change to the site as it now exists. The parking garage and warehouse would remain, presumably in the same conditions that exist in 1982.

In general, the environmenal characteristics of this alternative would remain substantially as described in Section III. of this report. Present levels of traffic, parking demand, transit demand, air pollution, noise, energy consumption, on-site employment, and shadow and visual effects now attributable to the buildings on the site would continue to exist.

The effects identified in Section IV. of this report, including increased shadows, increased employment, new housing demand, creation of additional revenues to the City and creation of a need for an increased subsidy to Muni, increases in vehicle and pedestrian traffic, transit ridership and parking demand, construction noise impacts and increased energy use, would not occur.

This alternative would leave the site open for development proposals at a similar or lesser density at a later date.

The sponsor has rejected this alternative because it would not fully use the potential usable space allowed at the site and would not provide a reasonable return on the investment potential of the site.

B. NO PARKING ON SITE

Under this alternative, no provision would be made for on-site parking, in conformance to the Transportation Element of the Comprehensive Plan, which recommends that no new long-term parking be created in the Core area of

downtown, in which the site is located. The proposed project would include 34 parking spaces. In all other respects this alternative would be the same as the proposed project.

The depth of excavation would be less than with the project as proposed; a small amount of ground floor area now proposed as a ramp would be available for other uses, possibly retail. Transit demand could be increased minimally by the lack of on-site parking and circulation and air quality effects in the immediate vicinity would be reduced. Other effects of this alternative would be the same as with the proposed project.

This alternative would not have a curb cut or parking entrance on Stevenson St. Project-related traffic on Stevenson St. would be reduced by the number of vehicles projected to use the garage (a maximum of 20 during the p.m. peak hour) and auto emissions on Stevenson St. would also be reduced (these emissions would occur instead in areas where drivers expected to find parking). The number of pedestrian/vehicle and vehicle/vehicle conflicts would be reduced. The total parking demand related to the project would not change; parkers from the project would compete with other parkers for spaces, resulting in some displacement. The net parking-related effect of no on-site parking, in conjunction with the projected lack, after cumulative development, of adequate parking for drivers with destinations downtown, would be to increase the number of persons using transit.

The sponsor has rejected this alternative because the sponsor believes some tenants of the building would need ready access to their automobiles for their businesses; for this reason, on-site parking enhances the marketability of the project space.

C. OFFICE PROJECT CONFORMING TO GUIDING DOWNTOWN DEVELOPMENT

Guiding Downtown Development (GDD), proposed controls developed by the Planning Department and published in July 1982, would change the allowable base FAR for the site to 12:1, and the height limit to 700 ft. Retail space of not more than 2,000 sq. ft. would not be counted against the FAR. GDD

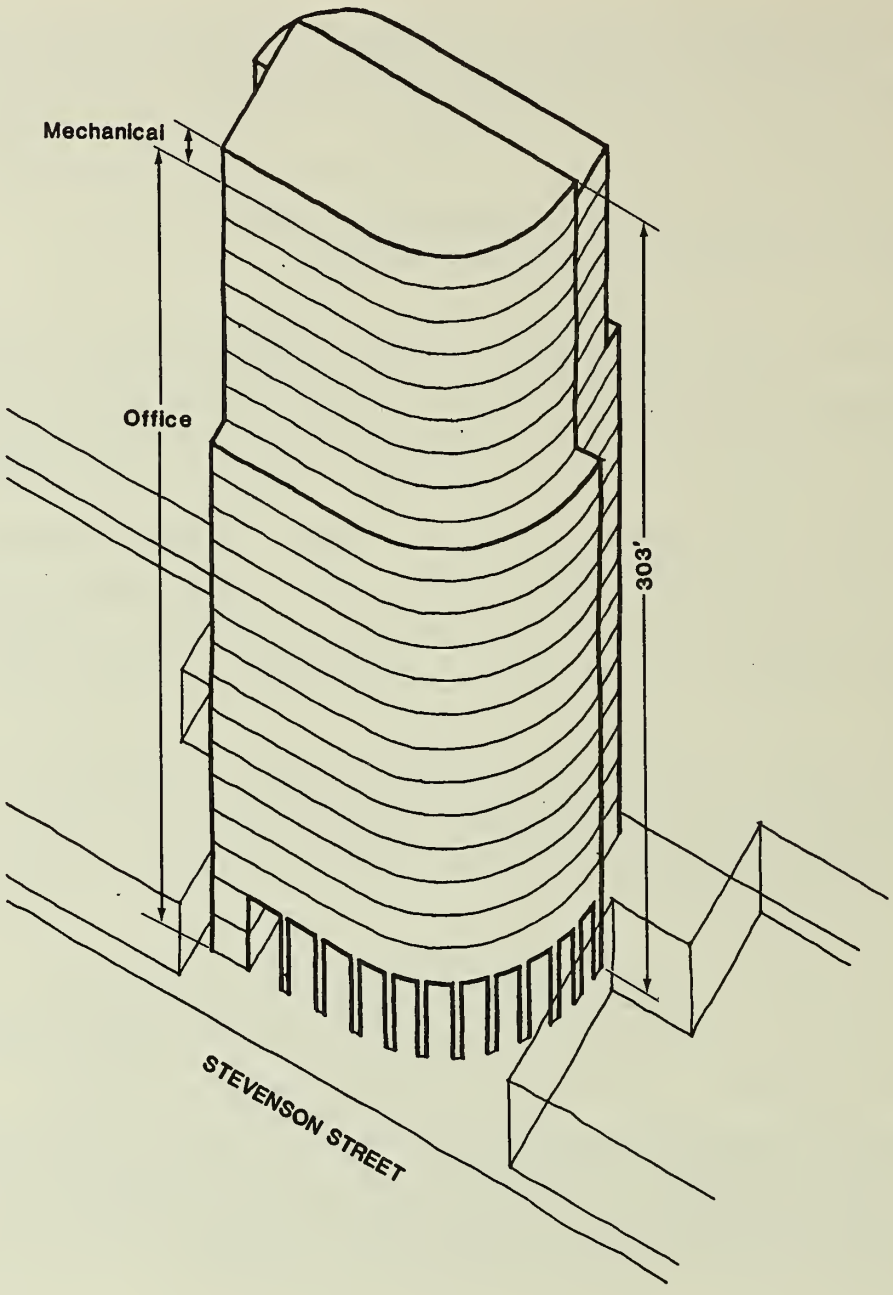
recommends the provision of one sq. ft. of public open space or recreational area for every 25 sq. ft. of building area. GDD bulk limits result in stepped buildings, with top floors limited to 8,100 sq. ft. of floor area, and a maximum base dimension of 200 ft. GDD further recommends the provision of publicly accessible art work at the ground level, equal in value to one percent of the construction cost of a new building.

This alternative would have 296,520 sq. ft. for a total FAR of 12:1 (35,440 sq. ft. less than the currently allowable floor area for the site), and 900 persons would be employed in the project (425 fewer than with the project). This alternative would be 23 stories (including a mechanical penthouse) and 303 ft. in height. The building would have a tapered design, in accordance with recommendations in GDD (see Figure 35, p. 130). Open space of 11,860 sq. ft. would be required; 17,700 sq. ft. would be provided in a ground level plaza of about 14,000 sq. ft. and sun and view terraces of about 3,700 sq. ft.

About 141,800 sq. ft. of housing in 246 units would be required housing for this alternative under the recommendations contained in GDD (640 sq. ft. and 0.9 units of housing per 1,000 gross sq. ft. of office area). This housing would be provided off site.

The width and length of shadows would be slightly reduced with this alternative because the tower would be somewhat narrower at upper stories and shorter than the project. The length of shadows would be the same. Transportation effects and energy consumption would be about 12% less than with the project. No parking would be provided on the site under this alternative, with effects similar to those of the No-Parking Alternative. Three loading docks would be provided, as with the project.

The sponsor has rejected this alternative because it would not maximize the allowable developable area under existing controls and because, in the sponsor's opinion, the proposed project already incorporates several of the recommendations in GDD, including a stepped building form and publicly accessible open space.



SOURCE: Gensler & Associates, Architects

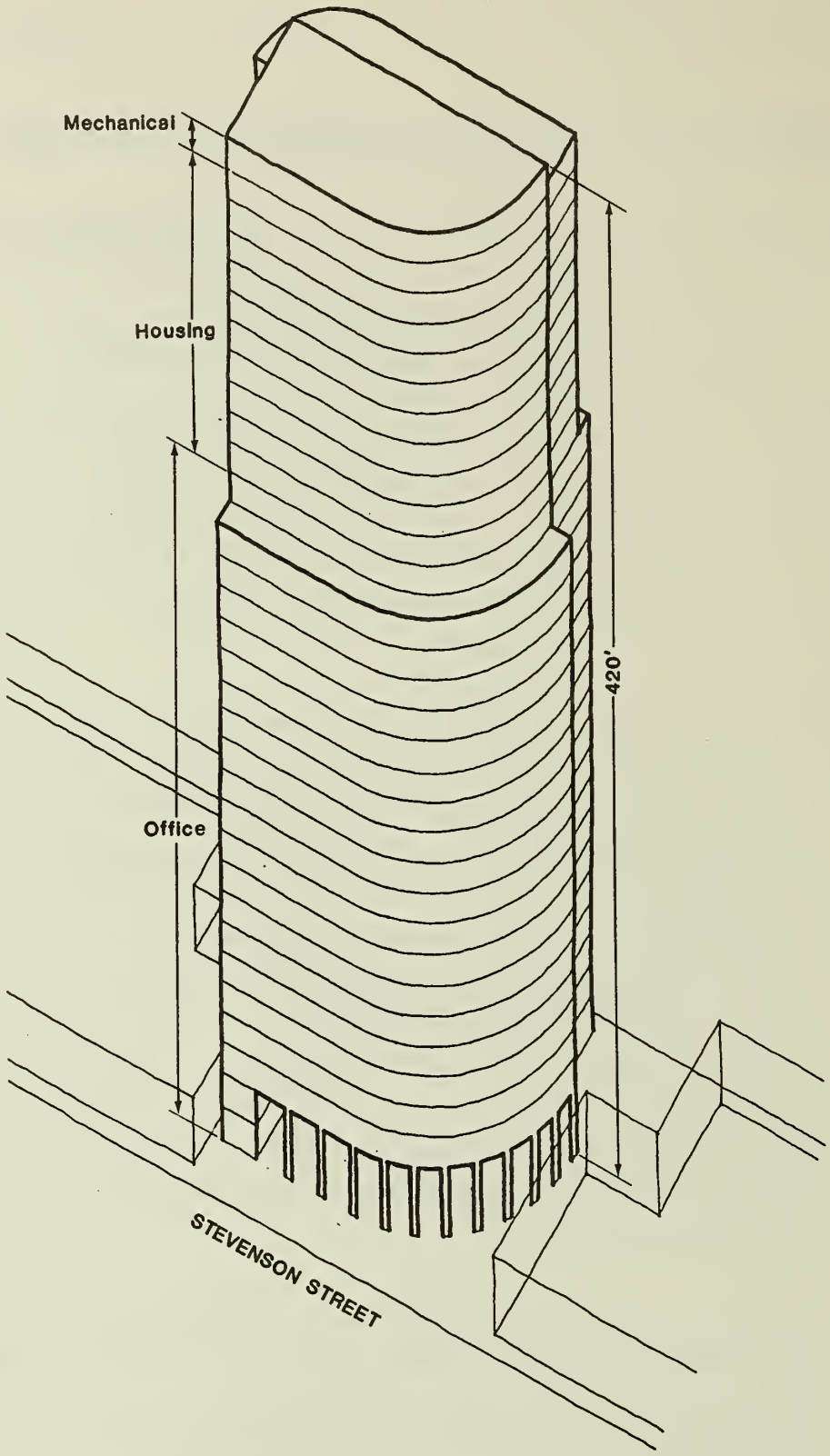
FIGURE 35: Alternative C – GDD Office Building

D. MIXED OFFICE/HOUSING PROJECT CONFORMING TO GUIDING DOWNTOWN DEVELOPMENT

Under this alternative, the building would contain the maximum allowable floor area of 420,070 sq. ft., based on 12:1 for office space (296,520 sq. ft.) and 5:1 for housing (123,550 sq. ft), as recommended by GDD for the C-3-O Use District. The building would be 420 ft. tall with 21 floors of office, 10 floors of housing (112 units) and a mechanical floor. Required open space would be 16,800 sq. ft., which would be provided in a ground floor plaza of about 14,000 sq. ft. and balconies for the residential units equal to 3,700 sq. ft. which could be used to meet the open space recommendation for the entire building. The building form would be tapered in accordance with bulk controls in GDD (see Figure 36, p. 132). Twenty-eight parking spaces would be provided for residential use in the basement.

Project employment would be about 1,200 jobs, 125 fewer than with the project. On the assumption of 1.8 persons per unit, 202 persons would reside in the housing units. Shadows would be about 30% longer than with the project as proposed. The 28 parking spaces would result in additional traffic on Stevenson St. and other local streets. This traffic would lower levels of service slightly on local streets, but trip distribution patterns would not correspond to peak-hour commuter traffic. Pedestrian/vehicle and vehicle/vehicle conflicts on Stevenson St. at Ecker St. and at First and Second Sts. would be more frequent than with the project. Transportation effects related to the office use on the site would be reduced by about 10% from project levels. Energy use would increase by about 13 billion Btu annually. Construction noise effects would last longer because the construction period would be extended.

The sponsor has rejected this alternative because the marketability of housing in this area has not been demonstrated; because the area of office use would not be the maximum currently allowed under existing controls, and supportable by demand; and because of the reduced efficiency of office floors which would result. An additional bank of elevators would be needed to serve residential floors, which would reduce the amount of usable floor space on the office floors. Area devoted to elevators is included in Floor Area Ratio calculations, and so the lost area could not be made up elsewhere.



SOURCE: Gensler & Associates, Architects

FIGURE 36: Alternative D – GDD Office/Housing Building

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APPENDIX A - LAND USE AND CUMULATIVE DOWNTOWN OFFICE DEVELOPMENT

TABLE A-1: MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO THROUGH 1981, IN GROSS SQUARE FEET

Year	Total Gross Sq. Ft. Completed	5-Year Total	5-Year Annual Average	Cumulative Total of All Office Buildings	Cumulative Total of All Downtown Office Buildings
Pre-1960		(Net)(a)	(Net)(a)	28,145,000(b)	24,175,000(c)
1960	1,183,000				
1961	270,000				
1962	--				
1963	--				
1964	1,413,000				
		2,866,000	573,200		
1960-1964		(2,580,000)	(516,000)	30,725,000	26,754,000
1965	1,463,000				
1966	973,000				
1967	1,453,000				
1968	1,234,000				
1969	3,256,000				
		8,379,000	1,675,800		
1965-1969		(7,541,000)	(1,508,000)	38,266,000	34,295,000
1970	1,853,000				
1971	--				
1972	1,961,000				
1973	2,736,000				
1974	2,065,000				
		8,615,000	1,723,000		
1970-1974		(7,753,000)	(1,550,000)	46,019,000	42,048,000
1975	536,000				
1976	2,429,000				
1977	2,660,000				
1978	--				
1979	2,532,000				
		8,157,000	1,631,400		
1975-1979		(7,341,000)	(1,468,000)	53,360,000	49,389,000
1980	1,284,000				
1981	3,029,000				
		4,313,000(d)	2,156,500(d)		
1980-81		(3,881,700)(d)	(1,940,850)(d)	57,241,700	53,270,700

TABLE A-1: MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO THROUGH 1981, IN GROSS SQUARE FEET (Continued)

(a) Net equals 90% of gross. Net new space is added at an increase factor of 90%, since it is assumed that space equal to 10% of a new building is demolished to make land available for the new replacement building.
(b) Source: San Francisco Downtown Zoning Study, Working Paper No. 1, January 1966, Appendix Table 1, Part 1. For pre-1965, data include the area bounded by Vallejo, Franklin, Central Skyway, Bryant and Embarcadero. Also includes one-third of retail-office mixed use. For post-1964, data include the entire city.
(c) Gross Floor Space for downtown offices are included for the following functional areas: Financial, Retail, Hotel, Jackson Square, Golden Gateway, Civic Center, South of Market, and Outer Market Street as defined in the cited January 1966 report. For post-1964, the entire area east of Franklin Street is included.
(d) Two-year total and average.

SOURCE: Department of City Planning, August 1, 1982.

TABLE A-2: CUMULATIVE OFFICE DEVELOPMENT IN DOWNTOWN SAN FRANCISCO AS OF AUGUST 6, 1982

PROJECTS UNDER FORMAL REVIEW

Assessor's Block	Case No.	Project Name
58	82.234ED	Roundhouse
112	81.258	Ice House Conversion (C)
136	81.245	955 Front at Green
176	81.673	Columbus/Pacific Savoy
228	81.610ED	569 Sacramento (C)
240	81.705ED	580 California/Kearny
265	81.195ED	388 Market at Pine
269	81.132ED	Russ Tower Addition
270	81.175ED	466 Bush
288	81.461ED	333 Bush (Campeau)
288	81.687ED	222 Kearny/Sutter
669	81.667ED	1361 Bush (C)
716	81.581ED	Polk/O'Farrell
3702	81.549ED	1145 Market
3703	81.494ED	1041-49 Market
3707	81.492ED	90 New Montgomery
3707	81.245C	New Montgomery Pl.
3708	81.493ED	71 Stevenson at Ecker
3733	82.29E	832 Folsom
3760	81.386	401 6th
3776	81.59	Welsh Commons
3778	81.630ED	548 5th/Brannan
3781	82.99E	Greyhound Bus Terminal
3786	82.33E	655 5th/Townsend
3789	82.31EV	615 2nd/Brannan (C)
9900	81.63	Ferry Building Rehab
9900		Pier One Development
9900		Agriculture Building

TABLE A-2: Continued

APPROVED PROJECTS

Assessor's Block	Case No.	Project Name
106	81.415ED	1299 Sansome
161	80.191	Mirawa Center
164	81.631D	847 Sansome
164	81.573D	50 Osgood Place
166	CU81.7	222 Pacific (C)
166	80.15	750 Battery
206	81.165D	401 Washington at Battery
227	80.296	Bank of Canton
261	81.249ECQ	333 California
262	81.206D	130 Battery
267	81.241D	160 Sansome
268	81.422D	250 Montgomery at Pine
271	81.517	453 Grant
271		582 Bush
294	82.870	44 Campton Place
311	82.120D	S.F. Federal
351	DR79.24	Mardikian/1170-1172 Market
3512	82.14	Van Ness Plaza
3518	81.483V	291 10th St.
3705	80.315	Pacific III Apparel Mart
3709	81.113ED	Central Plaza
3715	82.16EC	121 Steuart
3717	80.349	Spear/Main (160 Spear)
3717	82.82D	135 Main
3722	81.548DE	466 Clementina (C)
3722	81.417ED	144 Second at Minna
3724	81.102E	Holland Ct. (C)
3729	82.860	774 Tehama
3733	81.2	868 Folsom
3735	80.106	95 Hawthorne (C)
3738	DR80.5	315 Howard
3741	82.203C	201 Spear
3749	81.18	Marathon - 2nd & Folsom
3751	77.220	National Maritime Union
3752	77.220	Office Bldg. (YBC SB-1)
3763	81.287V	490 2nd at Bryant (C)
3763	81.381	480 2nd at Stillman (C)
3775	81.147V	338-340 Brannan (C)
3776	81.693EV	539 Bryant/Zoe
3788	81.296Z	690 2nd/Townsend (C)
3787	81.306	252 Townsend at Lusk
3789	81.552EV	625 2nd/Townsend (C)
3794	81.569EV	123 Townsend
3803	81.244D	China Basin Expansion

TABLE A-2: Continued

PROJECTS UNDER CONSTRUCTION

Assessor's Block	Case No.	Project Name
163	81.1	901 Montgomery
164	81.251D	936 Montgomery-(disco)
167		Golden Gateway III
196		736 Montgomery
196	CU79.49	Pacific Lumber Co.
208	81.104EDC	Washington/Montgomery
237	DR80.6	353 Sacramento (Daon)
239	DR80.1	456 Montgomery
240	DR80.16	550 Kearny
263	CU79.12	101 California
287	81.550D	Sloane Building (C)
288	DR80.24	101 Montgomery
289	81.308D	One Sansome
292	DR79.13	Crocker National Bank
312	79.370	50 Grant
351	79.133	U.N. Plaza
762		Opera Plaza
3702	81.25	1155 Market/8th
3708	80.34	25 Jessie/Ecker Square
3709	80.36	Five Fremont Center
3712	79.11	Federal Reserve Bank
3715		141 Steuart
3717	79.236	101 Mission at Spear
3717		150 Spear
3718	79.12	Pacific Gateway
3724		Yerba Buena West
3735		Convention Plaza

* Includes all office projects in the greater downtown area and the South of Market area for which a Preliminary Draft EIR has been submitted to the City for review or for which plans are well defined, and all office projects in redevelopment areas that are under construction or for which Land Disposition Agreements have been approved. It does not include projects in the Rincon Point - South Beach or Yerba Buena Center Redevelopment Areas for which no Land Disposition Agreements have been approved by the San Francisco Redevelopment Agency Commission, as it is not possible to know what development will be approved in these areas. It does not include Mission Bay as no formal proposal has been submitted to the City and the project is still in early planning stages.

** The letter (C) after a project refers to a conversion (generally industrial and/or warehouse space to office space).

SOURCE: Department of City Planning.

TABLE A-3: GROSS SQUARE FEET OF CUMULATIVE OFFICE AND RETAIL DEVELOPMENT* IN DOWNTOWN SAN FRANCISCO AS OF AUGUST 6, 1982

Status of Project	Office (Gross Sq. Ft.) Total New Constr.	Office (Gross Sq. Ft.) Net New Constr.	Retail (Gross Sq. Ft.) Total New Constr.	Retail (Gross Sq. Ft.) Net New Constr.
Under Formal Review	4,220,970	3,801,570	310,650	249,150
Approved	5,428,350	4,862,600	187,850	150,310
Under Construction	7,753,050	7,427,350	260,250	136,050
GRAND TOTALS	17,402,370	16,091,520	758,750	535,510

* The list of projects shown in Table A-2 and the development totals shown in Table A-3 include all office projects in the greater downtown area and the south of Market area that are under construction or have been approved, and all projects for which a Preliminary Draft EIR has been submitted to the City for review or for which plans are well defined, and all office projects in redevelopment areas that are under construction or for which Land Disposition Agreements have been approved by the San Francisco Redevelopment Agency Commission. Projects that were not definitive and/or appear to be inactive or withdrawn by the project sponsor were not included in the cumulative analyses.

Hotel projects have not been included in the cumulative analyses because hotel uses have different peaking characteristics from office buildings and generally do not significantly affect peak-hour traffic or transit. Residential projects have not been included because residential travel in the downtown is generally in the opposite direction to commute traffic during peak-hours. The office trip generation rate and modal split distribution are predicated on the assumption that housing would be available in the City: thus inclusion of residential projects would be double counting of project generated travel.

Two redevelopment areas (Yerba Buena Center and Rincon Point - South Beach) and one private development (Mission Bay) are located in or near the greater downtown area. In the redevelopment areas the majority of building sites do not yet have Land Disposition Agreements (LDA) approved. Until such time as specific LDA's are approved, no estimate of travel demand can be made (thus, parcels for which no LDA exists have not been included in the cumulative analyses). Development in the Yerba Buena Center (YBC) Redevelopment Area will be in accordance with the YBC Redevelopment Plan, as amended. Possible land uses that would be in accordance with the Yerba Buena Center Redevelopment Area Plan include commercial entertainment, convention facility (in plact), cultural, downtown support service, exhibit/ballroom space, hotel rooms, institutional, light industry, market-rate dwelling units, subsidized dwelling units, office, park or plaza, pedestrian concourse, parking and, retail./1/ Possible land uses in the Rincon Point - South Beach Redevelopment Area include hotel, housing, office, open space, public parking, retail and, warehouse uses./2/ Mission Bay has not been included in the cumulative analyses as no application has been submitted to the City and it is uncertain what formal proposal may be made.

TABLE A-3: Continued

/1/ Land uses from Draft Second Supplement Yerba Buena Center Final Environmental Impact Report, San Francisco Department of City Planning May 28 1982.

/2/ Land uses from Rincon Point - South Beach Redevelopment Area, San Francisco, California, Final Environmental Impact Report/Environmental Impact Statement, San Francisco Department of City Planning certified November 5, 1980.

SOURCE: Department of City Planning.

APPENDIX B: ARCHITECTURAL EVALUATION SURVEYS

The Architectural ratings discussed in the text of this report (see Section III.A., Architectural Resources and Urban Design: Figure 11, p. 24) represent the results of two separate architectural surveys.

SAN FRANCISCO DEPARTMENT OF CITY PLANNING INVENTORY

Between 1974 and 1976, the San Francisco Department of City Planning conducted a citywide inventory of architecturally significant buildings. An advisory review committee of architects and architectural historians assisted in the final determination of ratings for the 10,000 buildings, entered in an unpublished 60-volume record of the inventory. The rated buildings have been represented on a set of color-coded maps which identify the location and relative significance of each building surveyed. The maps are available for public inspection at the Department of City Planning.

The inventory assessed the architectural significance of the surveyed structures from the standpoint of overall design and particular design features. Both contemporary and older buildings were included, but historical associations were not considered. Each building was rated numerically according to its overall architectural significance. The ratings ranged from a low of "0" to a high of "5". Factors considered included architectural significance, urban design context, and overall environmental significance. The architectural survey resulted in a listing of the best six percent of San Francisco's buildings. In the estimation of the inventory participants, buildings rated "3" or higher represent approximately the best two percent of the City's architecture.

HERITAGE SURVEY

More recently, the Foundation for San Francisco's Architectural Heritage, through its consultants, Charles Hall Page & Associates, Inc., conducted an architectural and historical survey of all downtown structures. In 1979, the inventory results were published in the book Splendid Survivors. Criteria considered in rating the buildings include Architectural Significance and Negative Alterations. Summary ratings from "A" to "D" were then assigned to each building on the basis of these scores. The summary ratings indicate the following:

A. Highest Importance. Individually the most important buildings in downtown San Francisco. All "A" group buildings are eligible for the National Register and have highest priority for City landmark status.

B. Major Importance. Buildings which are of individual importance by virtue of architectural, historical, and environmental criteria. "B" group buildings may be eligible for the National Register. The Landmarks Preservation Advisory Board considers "B" buildings also to have highest priority for City landmark status.

C. Contextual Importance. Buildings which are distinguished by their scale, materials, compositional treatment, cornice and other features. Many "C" group buildings may be eligible for the National Register as part of historic districts.

D. Minor or No Importance. Buildings which are insignificant examples of architecture. Most "D" group buildings are "sites of opportunity."

NOT RATED. Buildings which have been built or suffered insensitive exterior remodelings since 1945.

ARCHITECTURALLY AND/OR HISTORICALLY SIGNIFICANT BUILDINGS IN THE DOWNTOWN

On May 29, 1980, the City Planning Commission by Resolution No. 8600 adopted a list of architecturally and/or historically significant buildings in the Downtown area, based on the above described surveys. The purpose of the list is to advise developers and building owners of the importance the City places upon conservation of significant buildings and to require special review by the Commission of any plans which would affect any building or buildings on such list. As noted in Section III.B., 2 buildings on the project site are included on this list.

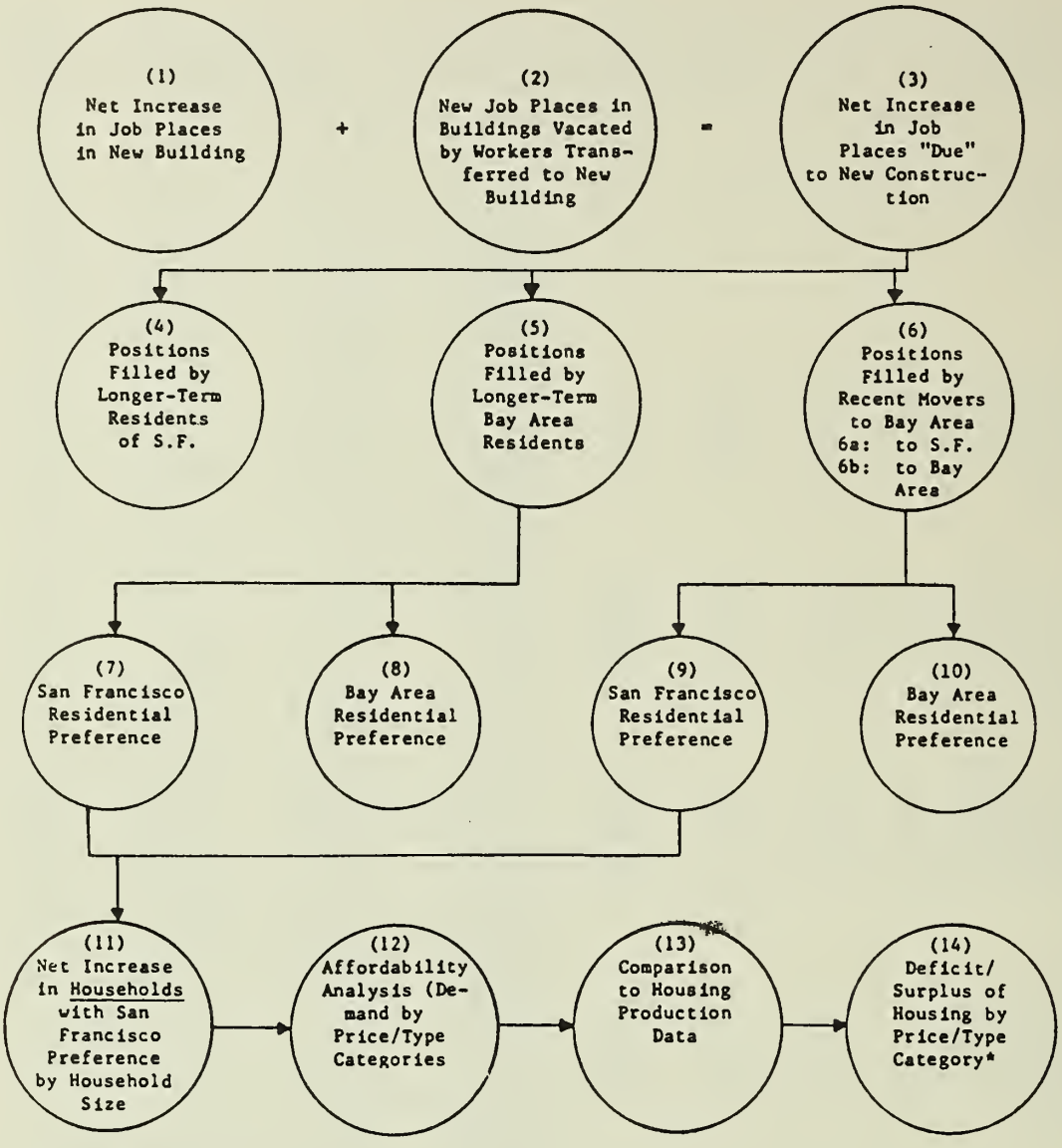
APPENDIX C - EMPLOYMENT, HOUSING AND FISCAL FACTORS

TABLE C-1: PROJECTED EFFECTS OF DOWNTOWN OFFICE DEVELOPMENT ON REGIONAL HOUSING MARKETS, 1980-85

	Project Demand in 1985	Cumulative Demand 1982 to 1990(c)		Net Housing Stock Growth 1982-1990(d)	Demand as a Percent of Growth 1982 to 1990	
	Number of Households*	Number of Employees	Number of Households	No. Units	Project	Cumulative
San Francisco (a)	140 to 290	9,900 to 25,800	6,900 to 14,300	12,000	1.2 to 2.4	57.5. to 119.2
Peninsula (b) (San Mateo and Santa Clara Cos.)	180	11,600	8,900	87,600	1.5	10.2
East Bay (a) (Alameda and Contra Costa Cos.)	390	19,300	14,900	111,800	3.3	13.3
North Bay (b) (Marin and Sonoma Cos.)	155	7,700	5,900	36,800	1.3	16.0
TOTAL	865 to 1,015	48,300 to 64,400	36,600 to 44,000	248,200	7.2 to 8.5	14.7 to 17.7

(a) Range of San Francisco employees and households based on 101 Montgomery Street Final EIR, EE80.26, certified May 7, 1981 (15-30% of all employees would reside in San Francisco and 1.4 workers would occupy each household) and "Office Housing Production Program (OHPP) Interim Guidelines," Department of City Planning, January 22, 1982 (40% of all employees would reside in San Francisco and 1.8 workers would occupy each household).
(b) Distribution of employees based on weighted average of expected employees in Federal Reserve Bank (EE78.207), 101 California Street (EE78.27), Pacific Gateway, (EE78.61), and Crocker National Bank (EE78.298), from 456 Montgomery Street Final EIR (EE78.178), p. 167. Workers per household in non San Francisco Counties is assumed to be 1.3 based on 1980 Census data; distributions are: Peninsula, 18%, East Bay, 30%, and North Bay 12%.
(c) Total office space considered in this analysis is about 16.1 million sq. ft. of net new office space (see Tables A-2 and -3, Appendix A). The proposed Housing Element (May 1982) estimates San Francisco housing needs from 1980-85 in Table 21A. This estimate, based on the Citizen's Housing Task Force Report, July 21, 1982, shows a need for about 16,000 to 19,000 units. The "needs" estimate uses a similar office development basis, but also includes housing demand generated by other sources in addition to office development and covers the years 1980-85.
(d) Net housing stock growth is based on "Projections 79," Association of Bay Area Governments, January 1980. Projections contained in this document for 1980-1990 were prorated to reflect 1982-1990 net housing stock growth.
* Rounded to the nearest five.

SOURCE: Environmental Science Associates, Inc.



* Demand due to citywide employment growth need also be considered here.

FIGURE C-1:
Housing Demand and Affordability Model for New, High-Rise Office Building

SOURCE: Questor Associates, June 1982

TABLE C-2: HOUSING AFFORDABILITY BY HOUSEHOLD INCOME

Gross Annual Income Per Household or Per Individual	Maximum Affordable Monthly Housing Expenditure*	Housing Cost and Type of Unit			
		Monthly Cost**	Type of Unit	(Price)	Source
$5,000	$125				
8,300 (a)	208				
10,000	250				
10,680	267	$267 -	Census Median Rent		(e1)
11,560	289	289 -	Studio Apartments		(f1)
15,000	375				
18,200	455	455 -	Median Rent, All Units		(f2)
20,000	500				
23,520	588	588 -	Rent, 3+ Bedroom Units		(f3)
25,000 (b)	625				
27,300 (c)	683				
30,000 (b)	750				
35,000	875				
40,000	1,000				
40,880	1,022	1,022 -	Lowest House Price	($95,000)	(g1)
45,000	1,125	1,125 -	Census Median Value	(104,600)	(e2)
50,000	1,250				
52,560 (d)	1,314				
55,000	1,375				
65,080	1,627	1,627 -	Median House Price	(151,203)	(g2)
↓					
101,880	2,547	2,547 -	Highest House Price	(236,750)	(g3)
↓					
300,000 (d)	7,500				

See following page for references.

TABLE C-2: Continued

* The Office/Housing Production Program (OHPP) Interim Guidelines, January, 1982, define affordable housing as follows:
rental expenses not exceeding 30% of gross monthly income, adjusted for family size; and home ownership expenses not exceeding 38% of gross monthly income, adjusted for family size, including mortgage payments, property taxes, insurance, and/or homeownership association dues. For the purpose of this table, 30% of gross monthly income is used to calculate housing affordability for both renters and owners. For owners it is assumed that 8% of gross monthly income would cover property taxes, insurance, and/or homeownership association dues and other related expenses. No adjustment has been made for family size because family circumstances vary widely.

** Monthly housing costs refer to rents and mortgage payments for the housing prices shown in parentheses; sources of rents and house prices are as footnoted. Monthly costs of ownership housing were calculated as monthly mortgage expenses assuming 20% down payment, 30-year mortgage, and 16% interest rate, not including insurance, property taxes, and other related housing costs.

a. U.S. Bureau of Labor Statistics, March, 1982, "Area wage survey for the San Francisco-Oakland, California Metropolitan Area." $9,600 was the mean 1980 income of inexperienced file clerks, one of the lowest-paid office occupations listed.

b. The range of $25,000 to $30,000 is assumed to approximate the median annual income of project employees (see Bank of Canton Final EIR, EE80.296, certified July 15, 1982, for discussion of incomes).

c. The $27,300 income figure was derived by inflating the $16,300 median income of downtown office workers from the 1974 SPUR survey through December, 1981 by 67% using U.S. Bureau of Labor Statistics national wage information for nonsupervisory finance, insurance, and real estate sector employees since 1974.

d. Montgomery-Washington Building FEIR, 81.104E, certified January 28, 1982. The median salary of wage earners at 601 Montgomery St. was estimated to be $52,560 and the highest salary for corporate officers $300,000, according to a 1981 survey.

e. City Planning and Information Services, "1980 Census Information," March 1982: 1. median rent 2. median noncondominium housing value Rental data include residential hotels whose rent levels may be substantially lower than other types of rental dwellings and may therefore have an effect on the median rent.

(continued)

TABLE C-2: Continued

f. Department of City Planning, "Rent Survey," 1980. Median rents are for:
1. studio apartments 2. all units 3. 3+ bedrooms
These data are based on a small nonrandom sample of newspaper ads and may not reflect true rental costs.

g. San Francisco Board of Realtors, "Multiple Sales Service," October 5, 1981. (Annual data on housing sales prices includes all homes listed by the Board of Realtors that were sold from February 11, 1981 to October 1, 1981 in San Francisco):

1. lowest price 2. median price 3. highest price

SOURCE: Environmental Science Associates, Inc.

TABLE C-3: SUMMARY OF RECENT STUDIES ON FISCAL IMPACT OF DOWNTOWN DEVELOPMENT

STUDY, AUTHOR, DATE	PURPOSE OF STUDY	DATA SOURCES	STUDY METHODOLOGY	CONCLUSIONS
"Fiscal Concerns" in Downtown San Francisco Conservation and Development Planning Program, Phase I Study, Sedway/Cooke, et al., October 1979, pp. 56-59	To qualitatively assess the likely fiscal impact of new development in the C-3 area under Proposition O.	SPUR STUDY (1975)	SPUR cost/revenue estimates for downtown in 1973 and for projected growth 1974-1990 were assumed. Proposition 13's effect on revenues and the possible need for increased transportation infrastructure were considered. Generalized conclusions about fiscal impact of new development were drawn.	1) After Proposition 13, "costs may exceed revenues in the downtown by as much as 25%." 2) "[N]ew downtown development will not solve the city's growing fiscal problem; without new revenue sources, development will make it worse in the long run."
Downtown Highrise District Cost Revenue Study, Arthur Andersen & Co., November 1980	To quantify for 1976-77 (pre-Prop.13) and 1978-79 (post-Prop. 13) how much revenue the C-3-O area generated and how much it costs to provide city services to the area.	Data compiled from city records and through conversations with city officials.	Only revenues generated within the C-3-O and costs of providing services to the C-3-O counted. "The principle guiding the study methodology was to calculate the amount of revenue that San Francisco would lose and the costs that could be reduced if the Downtown Highrise District were a separate city."	The C-3-O generated $56.79 million in 1976-77, or 61% more than the cost of city services to the area. In 1978-79, revenues were $53.29 million, or 48% greater than costs.
"Fiscal Considerations" Appendix C, 101 Montgomery Street FEIR, Recht Hausrath & Associates, January 1981.	Generalize conclusions about how post-Proposition 13 development downtown is likely to change the City's fiscal health from what it would be without new development.	SPUR Study, city records and conversations with city officials.	Under alternative assumptions about the cost/revenue balance in existing buildings and in new buildings, the fiscal impact over time of new development was compared to that of no new development.	"[A]n on-going process of new development would improve the City's fiscal situation. This beneficial impact would cease if new development were halted. This conclusion is tentative due to uncertainties about increased Muni costs."
Downtown Highrise District Cost/Revenue Study, David Jones, February 1981.	To quantify for 1978-79 the revenues generated by businesses in the C-3-O and the service costs imposed on the city and BART by the C-3-O.	Arthur Andersen study.	The Jones study differs from the Andersen study primarily as follows: 1) Costs of BART (but not revenues to BART) are included; 2) Only revenues paid by businesses and building owners are considered; 3) Muni deficit is computed differently; 4) Most costs estimated as percentage of revenues rather than actual service demand in the C-3-O.	The C-3-O imposed costs of $94.4 million on San Francisco and BART, or 125% more than the revenues the area's businesses and building owners generated to San Francisco.
Fiscal Impacts of New Downtown High-Rises on the City and County of San Francisco, Gruen Gruen + Associates, March 1981	To quantitatively estimate City revenues from the C-3-O and costs of serving the C-3-O in 1998, assuming the addition of 30 million square feet of building space in the C-3-O between 1981 and 1998.	Arthur Andersen study; data compiled from city records and through conversations with City officials.	"Only direct effects are considered." Costs are only measured for services "provided within the physical limits of the C-3-O district" and revenues are limited to "taxes on buildings within the district and the activities that take place within those buildings." Assumes the Arthur Andersen study is accurate and builds upon it.	In 1980, revenues from the 39 million square feet of building space in C-3-O were 1.66 times as large as costs. In 1998, after completion of the 30 million square feet of new space, revenues from the entire 69 million sq. ft. of C-3-O building space would increase to 1.92 times as large as costs.

SOURCE: Recht, Hausrath and Associates

APPENDIX D: TRANSPORTATION

TABLE D-1: VEHICULAR LEVELS OF SERVICE

Level of Service	Description	Volume/Capacity* v/c Ratio
A	Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.	0.60-
B	Level of Service B describes a condition where the approach to an intersection is occasionally fully used and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can be generally described as very good.	0.61-0.70
C	Level of Service C describes a condition where the approach to an intersection is often fully used and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.	0.71-0.80
D	Level of Service D describes a condition of increasing restiction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operation can generally be described as fair.	0.81-0.90
E	Capacity occurs at level of service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting up-stream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.	0.91-1.00
F	Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.	1.00+

* Capacity is defined as Level of Service E.

SOURCE: San Francisco Department of Public Works, Traffic Division, Bureau of Engineering, 1965.

TABLE D-2: PEDESTRIAN FLOW REGIMEN

Flow Regime	Walking Speed Choice	Conflicts	Flow Rate Average P/F/M*	Flow Rate V/C
Open	Free Selection	None	0.0- 0.5	0.00-0.03
Unimpeded	Some Selection	Minor	0.5- 2.0	0.03-0.11
Impeded	Some Selection	High Indirect	2.0- 6.0	0.11-0.33
Constrained	Some Restriction	Multiple	6.0-10.0	0.33-0.56
Crowded	Restricted	High Probability	10.0-14.0	0.56-0.77
Congested	All reduced	Frequent	10.0-18.0	0.77-1.00
Jammed**	Shuffle only	Unavoidable		

*P/F/M = Pedestrians per ft. of effective sidewalk width per minute.
**For Jammed Flow, the (attempted) flow rate degrades to zero at complete breakdown.

Note: Effective sidewalk width is the portion of the sidewalk which is actually used for passage. Studies of pedestrian behavior have found that pedestrians stay 1-1.5 ft. away from curbs and building faces. Sidewalk obstructions also reduce the effective sidewalk width.

SOURCE: Pushkarev, Boris and Jeffery M. Zupan, Urban Space for Pedestrians, Cambridge, MA, MIT Press, 1975.

CUMULATIVE IMPACT ANALYSIS METHODOLOGY

Travel Demand

Travel demand from the 16.1 million gross square feet of net new cumulative office development and 535,000 gross square feet of net new cumulative retail development in downtown San Francisco has been estimated using a land-use approach for trip generation. Future travel into the downtown has been assumed to be a result of construction and occupancy of downtown office and retail space. The Office of Environmental Review of the Department of City Planning (DCP) has identified office projects in the greater downtown area as being under formal review, approved or under construction. Table A-2 shows the list of projects separated by review status and includes Assessor's Block number and DCP case number for each project. Table A-3 contains the total gross square feet of office and retail space for each review status category. The information contained in these tables represents the best data available from the Department of City Planning at the time of preparation of this document.

Hotel projects have not been included in the cumulative analyses because hotel uses have different peaking characteristics from office buildings and generally do not significantly affect peak-hour traffic or transit. Residential projects have not been included because residential travel in the downtown is generally in the contra-commute direction during peak-hours and because the office trip generation rate and modal split distribution are

predicated on the assumption that housing would be available in the City. Thus inclusion of residential projects would be double counting of project generated travel.

Existing office and retail space that would be replaced by new buildings was subtracted from the proposed new construction to better approximate the impacts the new buildings would have on transportation facilities. As shown in Table A-3, net new office and retail space is less than total new construction as a result of subtracting out existing office and retail space on sites proposed for new buildings. ("Net new" space is used to refer to the amount of new construction in excess of existing space on each site in terms of gross sq. ft. of floor space. It does not refer to net leasable or net rentable floor space).

Projections of future travel have been made using trip generation rates of 17.5 person trip ends (one-way trips) per 1,000 net leasable sq. ft. of net new office space and 100 person trip ends (pte) per 1,000 gross sq. ft. of net new retail space./1/ Gross sq. ft. of office space was converted to net leasable sq. ft. by assuming an efficiency factor of 80%. The retail space has been assumed to be primarily "ground-floor retail" which would serve the office building users. Based upon survey data collected at the Embarcadero Center, approximately 45% of the travel generated by "ground-floor retail" uses has been assumed to be oriented to the office uses on-site and is already included in the office trip generation rate. Thus, 55% of the retail trip generation has been assumed to be "new" to each site./2/

P.M. peak-hour travel from the cumulative development was assigned to modes of travel based upon the regional distribution and modal split shown in Table D-3. During the p.m. peak hour about 20% of the office travel and 10% of the retail travel was assumed to occur. Of the office travel approximately 90% (during peak-hours) was assumed to be work-related and 10% was assumed to be other travel. On a daily basis, office travel was assumed to be 57% work-related and 43% other travel./3/

To calculate vehicle trip ends, average automobile occupancies were assumed for each regional area based upon available data. Currently, commute travel to the East Bay is about 1.8 persons per vehicle; the north Bay is about 1.5 persons per vehicle; and to the Peninsula is about 1.2 persons per vehicle./4/ San Francisco auto occupancy was assumed to be 1.4 persons per vehicle./5/

A basic assumption in all of the transportation analyses is that existing regional distributions and modal splits would continue into the future unchanged. Thus, the implicit assumption has been made that about 40% of the future employees would live in San Francisco. If housing is not available in the City then a greater impact than noted would result on the commute corridors into the City from the North Bay, East Bay and Peninsula. If housing is not available in the City, however, the impact on the Muni would be less than noted because City residents are the majority of Muni users.

The availability of short-term parking was estimated in an area within 1,000 ft. of the project (which was assumed to represent a 5-minute walking time). Projects proposed and under construction that would generate short-term

TABLE D-3: TRAVEL DISTRIBUTION AND MODAL SPLIT

Geographic Area	OFFICE Work Travel Geog. %*	Mode	%**	OFFICE Other Travel Geog. %*	Mode	%**	RETAIL Travel Geog. %*	Mode	%**
San Francisco									
Downtown/Northeast	7.0	Auto	9.0	33.0	Auto	2.0	84.0	Auto	3.0
(East of Van Ness,		Muni	61.0		Muni	20.0		Muni	7.0
North of Market		BART	1.0		BART	0.0		BART	1.0
to the Embarcadero,		Walk	29.0		Walk	78.0		Walk	89.0
South of Market to 101)									
Northwest	15.0	Auto	31.0	11.0	Auto	15.0	1.0	Auto	10.0
(Richmond,Marina		Muni	69.0		Muni	85.0		Muni	90.0
Western Addition)									
Southwest	13.0	Auto	29.0	13.0	Auto	12.0	2.0	Auto	10.0
(Sunset,Parkside,		Muni	62.0		Muni	69.0		Muni	80.0
Ingleside,Excelsior,		BART	9.0		BART	19.0		BART	10.0
Twin Peaks, and Upper Market)									
Southeast	5.0	Auto	26.0	7.0	Auto	13.0	2.0	Auto	10.0
(Potrero Hill, Bayview,		Muni	52.0		Muni	38.0		Muni	80.0
Hunters Point,		BART	22.0		BART	50.0		BART	10.0
East and South of 101)									
Peninsula	18.0	Auto	44.0	8.0	Auto	50.0	3.0	Auto	25.0
(San Mateo and Santa		Muni	3.0		Muni	0.0		Muni	0.0
Clara Counties)		BART	19.0		BART	30.0		BART	25.0
		SamT	7.0		SamT	10.0		SamT	0.0
		SPRR	27.0		SPRR	10.0		SPRR	50.0
East Bay	30.0	Auto	33.0	20.0	Auto	13.0	6.0	Auto	38.0
(Alameda and Contra		BART	37.0		BART	79.0		BART	62.0
Costa Counties)		AC	30.0		AC	8.0		AC	0.0
North Bay***	12.0	Auto	58.0	8.0	Auto	70.0	2.0	Auto	70.0
(Marin and Sonoma		GGTB	35.0		GGTB	20.0		GGTB	30.0
Counties)		GGTF	7.0		GGTF	10.0		GGTF	0.0

* Percent of travel with origins or destinations in each geographic area.
** Percent of travel in each geographic area using listed mode of travel.
*** GGTB stands for Golden Gate Transit Bus; GGTF stands for Golden Gate Transit Ferry.

SOURCE: San Francisco Department of City Planning, TJKM, Environmental Science Associates.

parking demand within the 1,000-ft. radius area were identified and the short-term parking demand was summed to give a projection of short term demand. Long-term parking demand was based upon the number of expected work-related auto trips into the downtown. Parking supply was estimated over the greater downtown South of Market area, as travel time from parking space to final destination was no longer assumed to be the primary determinant for parking selection.

Vehicle travel and parking demand have been based upon demand projections and are unconstrained by the ability of the freeway and bridge system to carry the additional demand. Freeway and bridge capacity into downtown is essentially fixed at existing levels as major construction would be required to add new capacity. Current levels of vehicle traffic on the freeway and bridge system are at or near capacity. Thus, if the projection of person trip ends in autos is assumed to be correct, the levels of vehicle occupancy would have to increase in the future as the freeway and bridge system could not handle an appreciable increase in autos at the peak hour. If vehicle occupancy were to increase, vehicle trip ends and subsequent parking demand would be less than projected. Alternately, the peak hour level of demand could spread into hours adjacent to the peak hour (as is currently happening). However, there is a finite limit as to how far the peak can spread over time and still allow business to function.

Transit demand has been projected based upon existing travel patterns and is not dependent upon the availability of transit capacity (see Table D-4). Two levels of operations (load factor) calculations have been made. One load factor has been calculated based upon existing capacity and is intended to represent conditions that would result if no improvements are made to the transit system. The second load factor is calculated based upon forecast capacity (as defined in each agency's five-year plan) and is intended to portray conditions that would result if planned, scheduled improvements are made.

Intersection Analysis

The capacity analysis of each intersection at which a turning movement count was made utilized the "critical lane" method. This method of capacity calculation is a summation of maximum conflicting approach lane volumes that gives the capacity of an intersection in vehicles per hour per lane. (This method is explained in detail in an article entitled "Intersection Capacity Measurement Through Critical Movement Summations: A Planning Tool," by Henry B. McInerney and Stephen G. Peterson, January 1971, Traffic Engineering. This method is also explained in "Interim Materials on Highway Capacity", Transportation Research Circular No. 212, Transportation Research Board, January 1980). The maximum service volume for Level of Service E was assumed as intersection capacity. A service volume is the maximum number of vehicles that can pass an intersection during a specified time period in which operating conditions are maintained corresponding to the selected and specified Level of Service. For each intersection analyzed, the existing peak-hour volume was computed and a volume-to-capacity (v/c) ratio was calculated by dividing the existing volume by the capacity at Level of Service E. Table D-1 shows the definitions of Levels of Service related to v/c ratio.

TABLE D-4: EXISTING AND PROJECTED MUNI LOAD FACTORS* (PM PEAK HOUR -- OUTBOUND DIRECTION)

	RIDERSHIP				LOAD FACTORS			
Line	Existing	Future w/o project	project	Future w/project	Existing	Future w/o project	Future w/project	project
1	1453	1953	14	1967	0.93	1.25	1.26	0.01
1X	640	870	6	876	1.11	1.51	1.52	0.02
2	474	663	4	667	1.10	1.53	1.54	0.02
3	520	701	5	706	1.08	1.46	1.47	0.02
4	467	630	4	634	1.08	1.46	1.47	0.02
5	981	1497	9	1506	0.94	1.43	1.44	0.01
6	544	830	5	835	0.84	1.28	1.29	0.01
7	407	621	4	625	0.77	1.18	1.18	0.01
8	657	1003	6	1009	0.74	1.13	1.14	0.01
9	468	714	4	718	0.89	1.35	1.36	0.01
11	184	280	2	282	0.64	0.97	0.98	0.01
12	451	688	4	692	0.85	1.30	1.31	0.01
14	1038	1584	10	1594	0.92	1.40	1.41	0.01
14GL	205	312	2	314	0.71	1.08	1.09	0.01
14X	344	484	3	487	0.68	0.96	0.97	0.01
15	632	923	6	929	0.88	1.28	1.29	0.01
17X	162	218	2	220	0.64	0.87	0.87	0.01
21	643	981	6	987	0.85	1.30	1.31	0.01
27	145	204	1	205	0.58	0.81	0.81	0.01
30	1415	1939	13	1952	0.92	1.26	1.27	0.01
30X	435	589	4	593	0.86	1.17	1.18	0.01
31	657	937	6	943	1.07	1.53	1.54	0.02
31X	413	561	4	565	0.96	1.30	1.31	0.01
38/L	1963	2734	19	2753	1.01	1.41	1.42	0.01
38AX	453	616	4	620	1.26	1.71	1.72	0.02
38BX	272	369	3	372	0.96	1.31	1.32	0.01
41TC	119	166	1	167	0.41	0.58	0.58	0.01
41MC	184	257	2	259	0.43	0.60	0.60	0.01
42	393	593	4	597	0.99	1.50	1.51	0.01
45	561	756	5	761	0.90	1.21	1.22	0.01
66L	555	740	5	745	0.77	1.03	1.03	0.01
71	447	682	4	686	1.10	1.67	1.68	0.02
80X	416	585	4	589	0.83	1.16	1.17	0.01
J	909	1387	9	1396	0.84	1.28	1.28	0.01
KLMN	5725	8735	54	8789	0.96	1.46	1.47	0.01

*The load factor is the ratio of ridership to existing capacity, where capacity is calculated from the recommended maximum loading of the transit vehicles which is 150% of seated capacity. As estimates of load factors, these should be regarded as approximate. Muni cordon points, where the ridership and capacity counts were made, do not necessarily correspond precisely to the point of maximum loading on each line. The future load factors have been calculated using existing capacity.

SOURCE: Department of City Planning; Environmental Science Associates, Inc.

M Ocean View - Civic Center Station

Wednesday, September 9, 1981 - 8:20 A.M. - Inbound

L Taraval - Van Ness Station

Wednesday, September 16, 1981 - 4:50 P.M. - Outbound

14 Mission - Mission St. and S. Van Ness Ave.

Tuesday, September 29, 1981 - 5:45 P.M. - Outbound

N Judah - Irving St. and Ninth Ave.

Tuesday, September 29, 1981 - 8:20 A.M. - Inbound

SOURCE: Environmental Science Associates, Inc.

FIGURE D-1: Photographs of Peak Muni Loading Conditions

Employment Trend Approach to Cumulative Analysis

In this and other San Francisco EIRs, a land-use type of approach has been used to estimate the transportation impacts of both the proposed project and cumulative development. An alternate type of approach is to forecast travel demand based upon regional projections of employment share (employment trend approach)./6/ Briefly, the fundamental differences between (and limitations of) the two approaches are:/7/

The land-use approach (as it has been applied in this EIR) has used net new office space actually proposed or under construction (less space in buildings demolished to make way for new buildings) as the basis for travel generation. The land-use approach assumes that literally all of the currently proposed development in the downtown area will be constructed and fully occupied within the time frame of the 71 Stevenson St. project development and occupancy. No allowance has been made for less than 100% occupancy, for proposed developments that are never constructed, or for those which would not be occupied within the time frame of the 71 Stevenson St. project.

The employment trend approach generates a total increase in employment in downtown that has taken account of loss of employment as industries and offices move out of the City, replacement of one type of industry with another (industry shifts), as well as, replacement of existing office space with new office space. The employment trend approach makes no implicit assumptions concerning occupancy rates or actual square footage of development constructed; rather, it generates total employment increases from a standpoint which assigns jobs by metropolitan sector (area) based upon extrapolation of past trends and which considers long-term industry shifts to, within, and away from each area.

Note that neither of the two approaches has attempted to project future changes in modal split.

To illustrate the differences in projections resulting from the two approaches, Table D-5 shows the total employment projections by the two methods (and the project's share thereof), the regional distribution of trips, and Muni's share of the new transit travel (and the project's share thereof).

As shown in the table, the employment trend approach predicts about 15% fewer employees in the downtown and about 8% more riders on the Muni than does the land-use approach. The employment trend approach would thus approximate the transit demand impacts discussed on pp. 89-92 of the EIR.

Several considerations concerning both of the methods need to be noted. The land-use approach, as it has been applied in San Francisco EIR's, analyzes impacts for the p.m. peak hour, whereas the employment trend approach analyzes the a.m. peak. Several reasons exist as to why one peak (or the other) may be the better one to analyze.

First, the p.m. peak may be more useful to analyze, in that actual observation shows that the p.m. peak has a greater overall effect on the local street network and transit system in the downtown area than does the a.m. peak, as more travel takes place during the p.m. peak. Also, transit service is more

TABLE D-5: COMPARISONS OF LAND-USE AND EMPLOYMENT TREND APPROACHES

Approach	Downtown Employment Increase	Project Share*	Regional Trip Share S.F.	Pen.	E.B.	N.B.	Muni Peak-hour Increase**	Project Share***
Land Use	64,400	2.0%	49%	16%	24%	11%	12,000	2.1%
Empl. Trend+ (maximum)	56,100	2.4%	50-54%	19%	17-21%	10%	12,900++	1.9%

NOTE: As explained in the text, comparisons between the entries for the two approaches must be made with the understanding that the land-use approach reflects increases in employment and transit demand based solely upon increases in downtown office space, while the employment trend approach reflects total increases therein based upon historical trends. The differences among the regional trip share figures reflect these and the other differences between the two approaches.

*Employment generated by the proposed 71 Stevenson St. project, as a percent of the cumulative downtown employment increase.

**The Muni peak-hour increase is a demand projection (based upon existing and long-term employment trends) that is not dependent upon available or expected transit capacity.

***Muni peak-hour trips generated by the proposed 71 Stevenson St. project, as a percent of the cumulative downtown Muni peak-hour increase.

+These figures, represent the worst-case analysis under the employment trend approach reviewed and accepted by MTC, ABAG and Muni. Note that the land-use approach entries assume that an additional net new 16.1 million gross sq. ft. of office space will come on line by late 1990.

++Based on 54% regional trip split to San Francisco (worst-case).

inclined to differ from scheduled times during the p.m. peak than during the a.m. peak, as operational delays have had an 8- to 10-hour period over which to accumulate. Finally, the on-ramps to the freeway/bridge system are greater bottlenecks (in the p.m. peak) than are the off-ramps (in the a.m. peak).

Conversely, the peaking characteristics of the a.m. peak may be more useful in that they are much sharper than those of the p.m. peak (i.e., a greater percentage of the peak-period travel occurs during a single hour). Also, as a result of the bridge system into San Francisco, travel inbound into the City is much easier to document, as tolls are collected on the inbound direction on the Golden Gate and Bay Bridges. Finally, a greater proportion of the travel occurring during the a.m. peak is employment-related; the p.m. peak includes

shopping and pleasure trips which are not directly affected by increased office space.

The land-use approach, as it has been used in this Supplemental EIR, examines the p.m. peak because it has been observed to be the worst case for congestion on the City transportation system. This analysis does not reflect the spreading of the p.m. peak that is currently occurring, as all of the new trips have been assumed to take place in a single hour.

While the land-use approach assumes all new office space is fully occupied, the assumption of a functional vacancy rate of 5% is not uncommon./6/ With 16.1 million sq. ft. of new office space assumed in the land-use approach to be occupied by 1990, a 5% vacancy would amount to approximately 805,000 sq. ft., representing 7,200 employees (at 250 sq. ft. per employee), 600 of which would ride Muni in the p.m. peak hour. This adjustment for vacancy would thus reduce Muni peak-hour impacts in the cumulative analysis stated above by these 600 riders.

The land-use approach calculations have assumed transit capacity to be fixed at existing levels. The OER memorandum/6/ points out, "It should be recognized that transportation is a more 'elastic' resource with many options for expansion including increasing existing capacity by using articulated vehicles, expanded car pool and van pool programs and increasing the peak commuter period through flex-time programs, among others."

If future office development does not occur along the lines of the past long-term trends as assumed in the employment trend approach, then the projections made in Working Paper I would be revised. The average annual growth during the period 1965-1980 was less than the growth per year proposed, approved, or under construction for the period 1980-1984. The employment trend approach assumes average growth through 1990 would be at the lower historic rate, reflecting activity fluctuations from the current rate including slowdowns due to changing business conditions.

Until a forecast exists to determine how the current decade's cycle of development may differ from the past, a judgment of the applicability of results from Working Paper I may not be made. Consequently, this EIR has retained the land-use approach and presented this comparison of the employment trend approach. Both methods should be looked upon as describing potential scenarios of future conditions.

NOTES

/1/ The regional distribution, office trip generation, trip purpose and peak hour percentage are from Attachment 1 of the Guidelines for Environmental Impact Review, Transportation Impacts Department of City Planning, October 1980, and the modal split assignment is from Attachment 2 supplemented by survey data collected by Environmental Science Associates, Inc.

/2/ Retail trip generation is from Trip Generation, Institute of Transportation Engineers (ITE), 1979. Rates have been adjusted from vehicle trip ends to person trip ends based upon an assumed vehicle occupancy of 1.4 persons per vehicle. The survey of retail travel was conducted by

Environmental Science Associates at Embarcadero Center on Thursday, June 17, 1982 between 10:00 a.m. and 4:00 p.m.

/3/ The percentage of work and non-work trips is from the Guidelines (see note 1) and from Urban Travel Patterns for Hospitals, Universities, Office Buildings, and Capitols, Report No. 62, National Cooperative Highway Research Program.

/4/ East Bay auto occupancy is from data collected at the Bay Bridge toll plaza by the Metropolitan Transportation Commission; North Bay auto occupancy is from data collected at the Golden Gate Bridge toll plaza by the Golden Gate Bridge, Highway and Transportation District; Southern Peninsula auto occupancy is an estimate from CalTrans.

/5/ The occupancy rate is from The Downtown Traffic and Parking Study, San Francisco Department of Public Works, 1970.

/6/ Department of City Planning, Working Paper I, Projection of Long-Range Transportation Demand, May, 1982, prepared in cooperation with the Metropolitan Transportation Commission (MTC), the Association of Bay Area Governments (ABAG), and the Municipal Railway (Muni). Employment trend data was compiled by ABAG from trends in County Business Pattern (U.S. Department of Commerce, Bureau of the Census, March 12, 1979), with 1979 as the base year for future projections and regional distributions. Modal split data are from the 1975 Travel Survey prepared by MTC.

/7/ The Department of City Planning, Office of Environmental Review (OER), has issued a memorandum, dated July 2, 1982, dealing with the subject of the differences in the land-use and employment trend approaches, and recommending that both approaches be used in future EIRs to give a more balanced assessment of future peak transportation demand. This memorandum is on file with and available from the Office of Environmental Review, 450 McAllister St., 5th Floor. The memorandum calls out some of the fundamental differences between the two approaches and also details the limitations of each approach.

APPENDIX E: PROBABLE SEQUENCE OF SEDIMENT LAYERS WITH DEPTH

Geologic Material	Approximate Elevation of Bottom of Layer* (feet below San Francisco Datum) (ground surface at +9 to +13)
artificial fill	+0.5 to +1.0
wind blown sand	-19
Upper Bay mud	-29 to -39
dense sand	-75**
Lower Bay clays	-215
bedrock surface	-215

*The elevations are approximate; the geologic units are mostly of uniform thickness. Bedrock elevation is at the top of the layer.

**Data on the depth of the materials below the dense sand are inferred from information about the geologic sequence in the vicinity. Borings at the site extended no deeper than Elevation -75.5 ft.

SOURCE: Lee and Praszker, 1982

APPENDIX F: PROJECTS INCLUDED IN COMPARATIVE ANALYSIS OF ENERGY CONSUMPTION

101 Montgomery
Howard & Main
595 Market
505 Sansome
180 Montgomery
Golden Gateway
Pacific Gateway
Daon Building
(Battery and Sacramento)
456 Montgomery
101 Mission
Spear/Main
Post/Kearny
135 Main
Pacific III
Washington/Montgomery
Bank of Canton

SOURCE: Environmental Science Associates

APPENDIX G: EMERGENCY CARE FACILITIES

Centers for Casualty Care and Mass Care have been designated by the Mayor's Office of Emergency Services:

CASUALTY CARE FACILITY May be either a Hospital with full capabilities for surgery, X-ray, laboratory, etc., for treating major injuries; or a First Aid Station with lesser capabilities, for treating less-severe injuries. These facilities comprise both private and public agencies.

MASS CARE FACILITY A location such as a school, from which lodging, feeding, clothing, registration, welfare inquiry, first-aid and essential social services can be provided to disaster victims during the immediate post-disaster period. Operated by the Red Cross, Department of Social Services, School District, Park and Recreation Department, University of San Francisco, and Salvation Army.

The CASUALTY CARE FACILITIES closest to the project:

San Francisco City Clinic, 250 4th Street.
South of Market Health Center, 551 Minna.

The MASS CARE FACILITY closest to the project:

Moscone Center.

SOURCE: City & County of San Francisco Earthquake Response Plan, Mayor's Office of Emergency Services

APPENDIX H

FINAL INITIAL STUDY*
71 STEVENSON STREET
SAN FRANCISCO
81.493E
JANUARY, 1982

* Differences among data presented in the following Initial Study and the preceding focused EIR are attributable to the availability of additional and more precise data during the subsequent preparation of the EIR.

DEPARTMENT OF CITY PLANNING 100 LARKIN STREET · SAN FRANCISCO, CALIFORNIA 94102
(415) 552-1134

NOTICE THAT AN ENVIRONMENTAL IMPACT REPORT IS DETERMINED TO BE REQUIRED

Date of this Notice: January 22, 1982

Lead Agency: City and County of San Francisco, Department of City Planning
100 Larkin Street, San Francisco, CA. 94102

Agency Contact Person: Sally E. Maxwell Tel: (415) 552-1134

Project Title: 81.493E
71 Stevenson Street
Office Building

Project Sponsor: Highfield Corporation, Ltd

Project Contact Person: Peter Gordon, Gensler and Associates

Project Address: 71 Stevenson Street

Assessor's Block(s) and Lot(s): Lots 28 and 29 in A/B 3708

City and County: San Francisco

Project Description: Construct a 24-story, 370,000 gross square foot building with about 302,000 sq.ft. of office, 7,000 sq.ft. of retail and 35 parking spaces; requireing removal of 2 buildings and Discretionary Review.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15081 (Determining Significant Effect), 15082 (Mandatory Findings of Significance) and 15084 (Decision to Prepare an EIR), and the following reasons, as documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

Deadline for Filing of an Appeal of this Determination to the City Planning Commission: February 1, 1982.

An appeal requires 1) a letter specifying the grounds for the appeal, and 2) a $35.00 filing fee.

Alec S. Bash

Alec S. Bash, Environmental Review Officer

ER5 6/80

INITIAL STUDY
71 Stevenson Street Office Building

81.493 E

PROJECT DESCRIPTION

The proposed project is a 24-story office building located on Lots 28 and 29 of Assessor's Block 3708 and is situated on the central portion of the block bounded by Stevenson, Jessie, Second and Ecker Streets (See Figure 1, page 3). The site is in the C-3-O (Downtown Office) Zoning District, in which the maximum permitted Floor Area Ratio (FAR) is 14 to 1, and the 700-I Height and Bulk District. The site contains 24,710 square feet. The site itself is currently occupied by a parking garage at 71 Stevenson Street (rated "C" in the Heritage Survey) and a warehouse at 64 Jessie Street (rated "B"). Surrounding land uses include office buildings with ground floor retail space, educational and related uses, parking lots and warehouses.

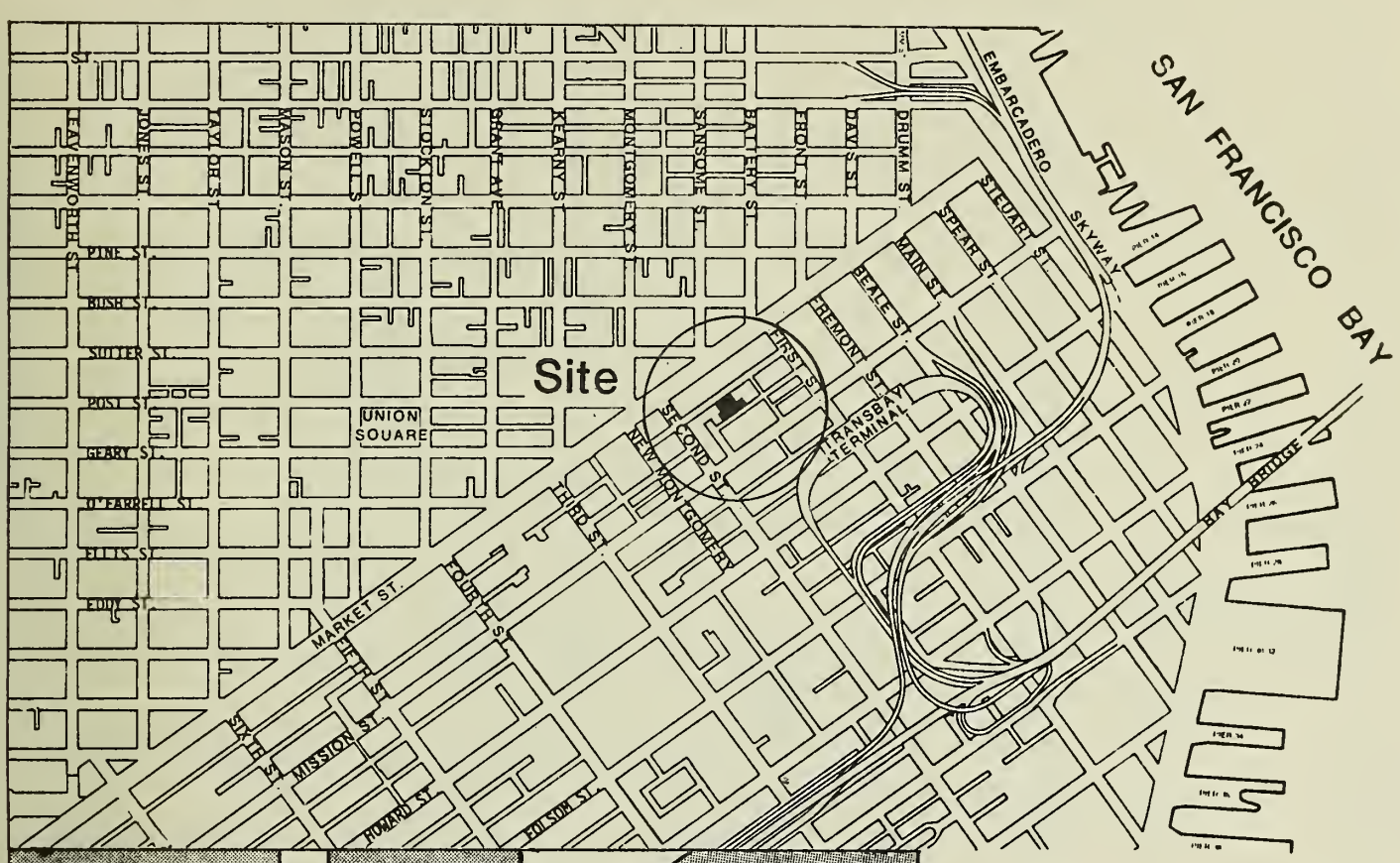
The project would consist of a 24-story office tower (including a penthouse mechanical floor) with one subsurface parking level. Retail shops would be located on the ground level and mezzanine level, with floors 2-23 for office use; the 24th floor would contain mechanical space. The building would rise to a maximum height of 332 feet. The project would contain about 370,000 total gross sq. ft.: 302,000 sq. ft. for office use, 7,000 sq. ft. for retail use, 23,000 sq. ft. for parking and 38,000 sq. ft. for building services. Thirty-five parking spaces would be provided on the subsurface level and three truck berths would be located at ground level.

Pedestrian access to the project would be provided by a main entrance on Stevenson Street and two additional building entrances on Jessie Street. Vehicular access to the subsurface parking level would be from Stevenson Street and loading dock facilities would be provided on Jessie Street (see Figure 2, page 4).

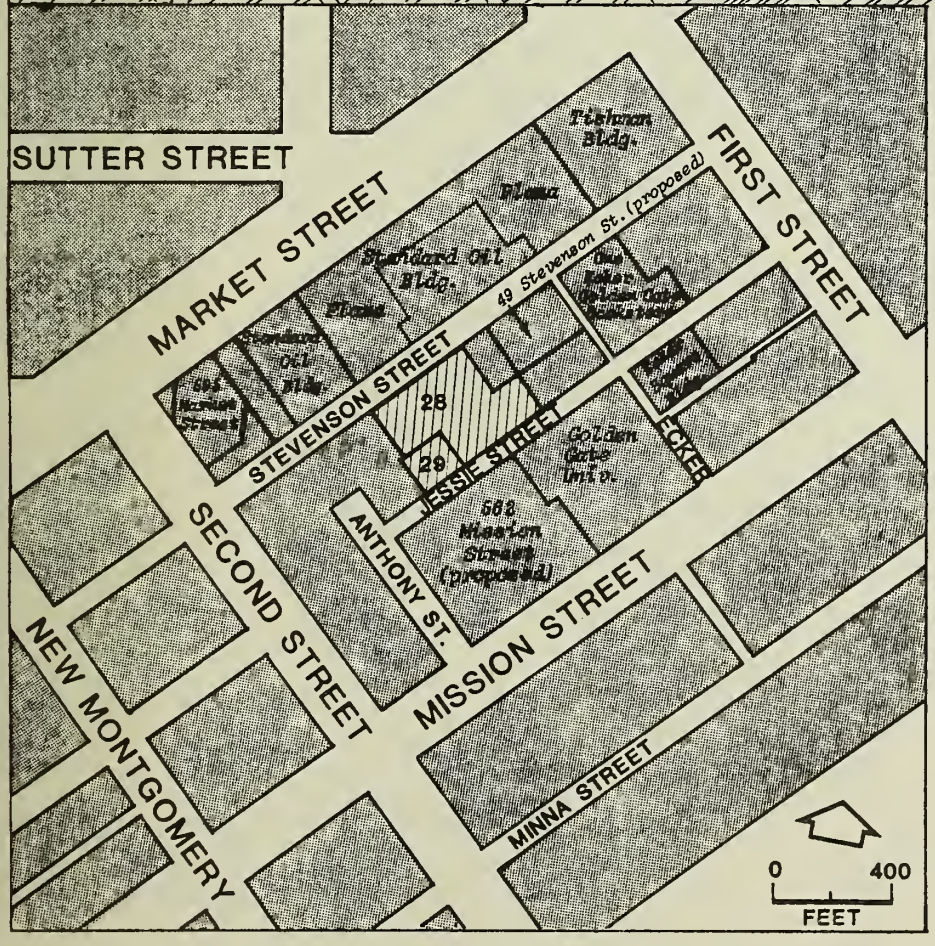
The project design would consist of an off-set tower scheme in which the building massing would be arranged in two unequal portions; that with the larger footprint would rise several floors above the smaller portion to accommodate mechanical spaces. Two opposite corners of the building would be rounded to minimize view obstruction from nearby buildings (see Figures 3 and 4, pp. 5 and 6). A landscaped plaza located at the southwest corner of the project would be linked with the Stevenson Street building entrance by a retail arcade, establishing pedestrian access from Stevenson Street to Jessie Street through the project site. The project would provide a connection to a mid-block pedestrian passage being considered by Lincoln Properties as part of a proposed 32-story office building at 562 Mission Street (located south of the project site across Jessie Street).

Exterior surfacing would be polished stone and a glass curtain wall. Clear glass would be used at the ground level and tinted and colored glass on the above-ground office floors. The project would contain no reflective glass or high-intensity lighting.

The project sponsor is Highfield Development Colorado, Inc., a subsidiary of Highfield Corporation Ltd., which is a Canadian corporation based in Vancouver, British Columbia. Project architects are Gensler and Associates, San Francisco, California.



Above: Site Location

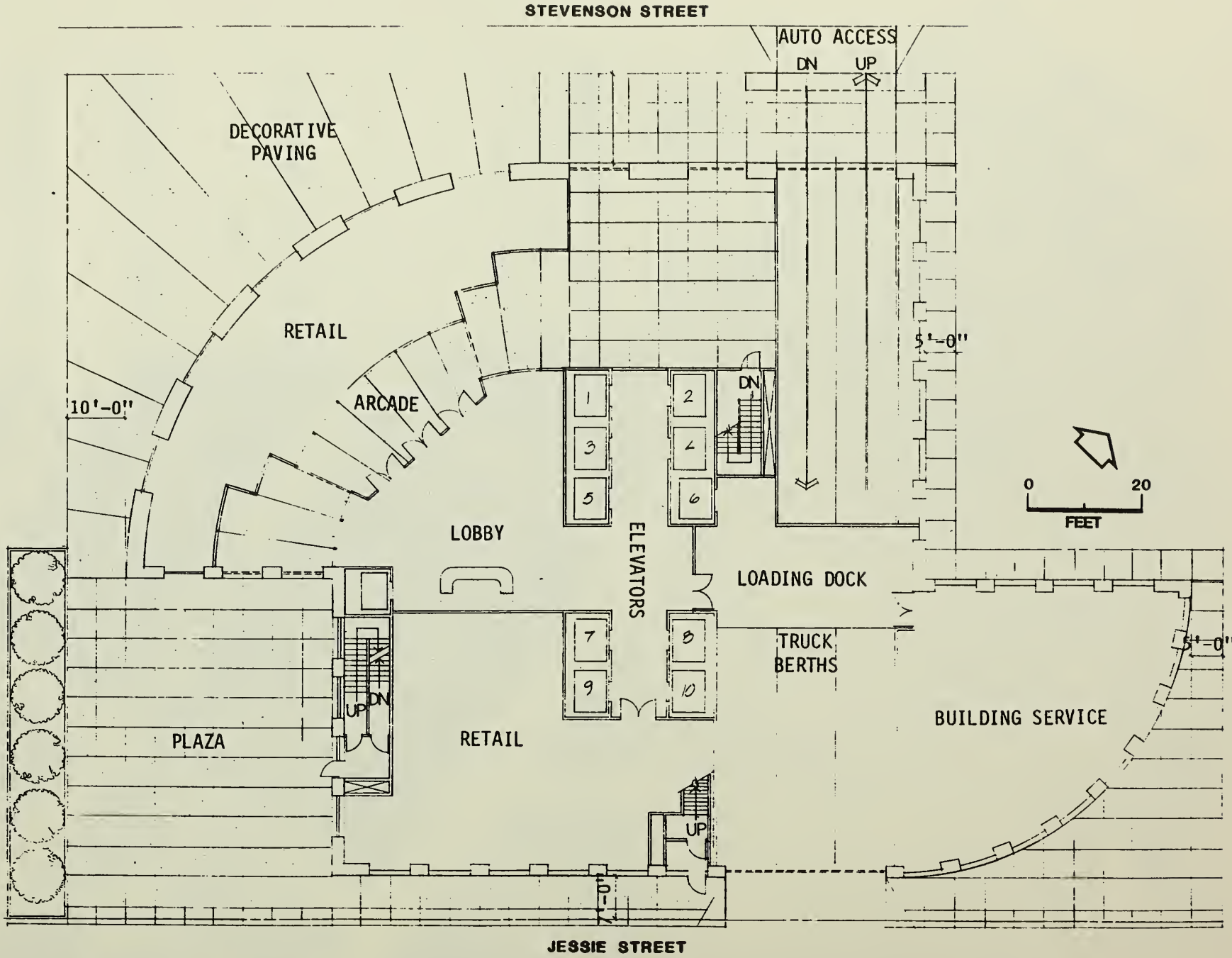


Left: Lot / Block Plan

////// Site

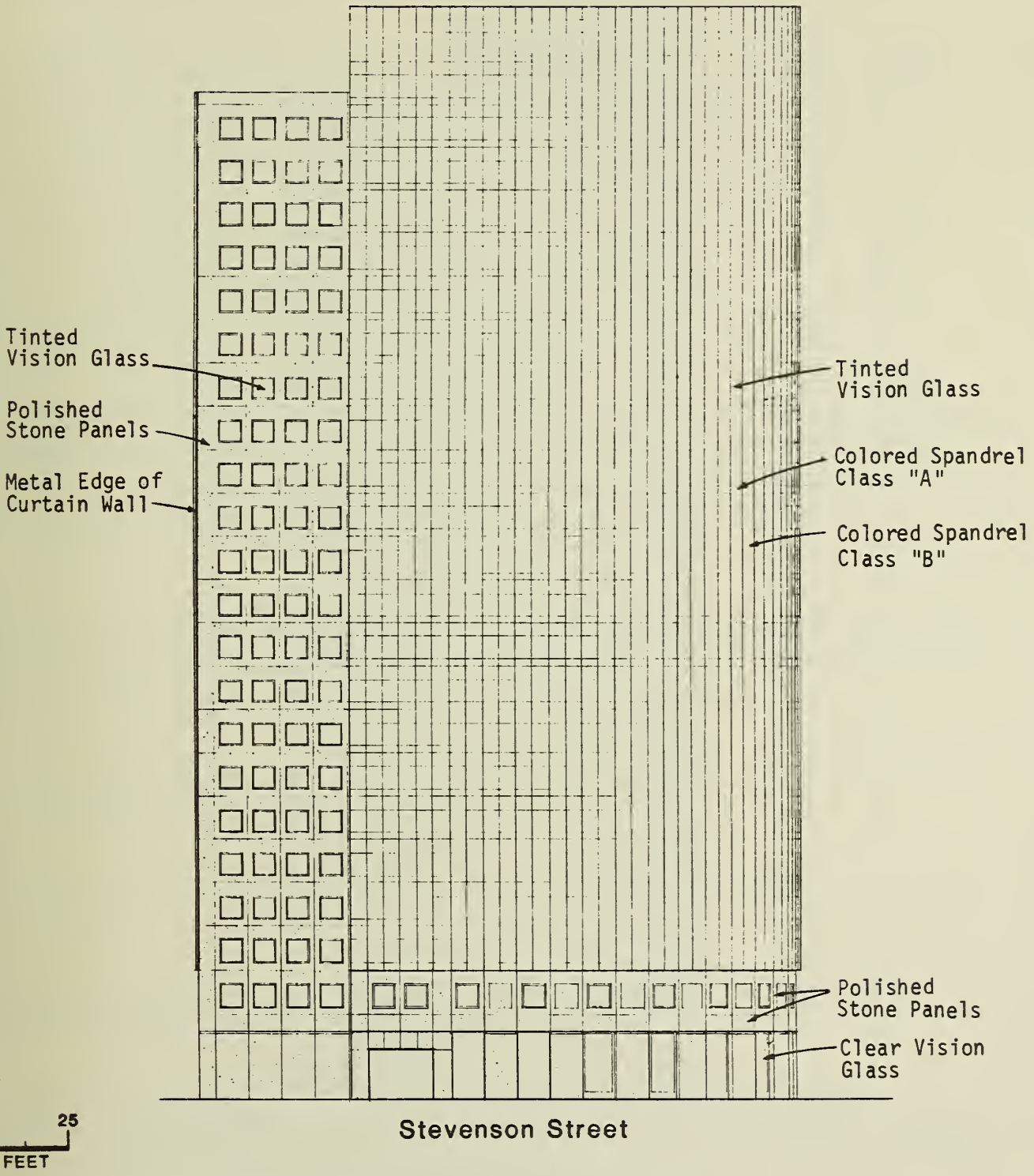
FIGURE 1: Project Site and Vicinity

SOURCE: Environmental Science Associates, Inc.



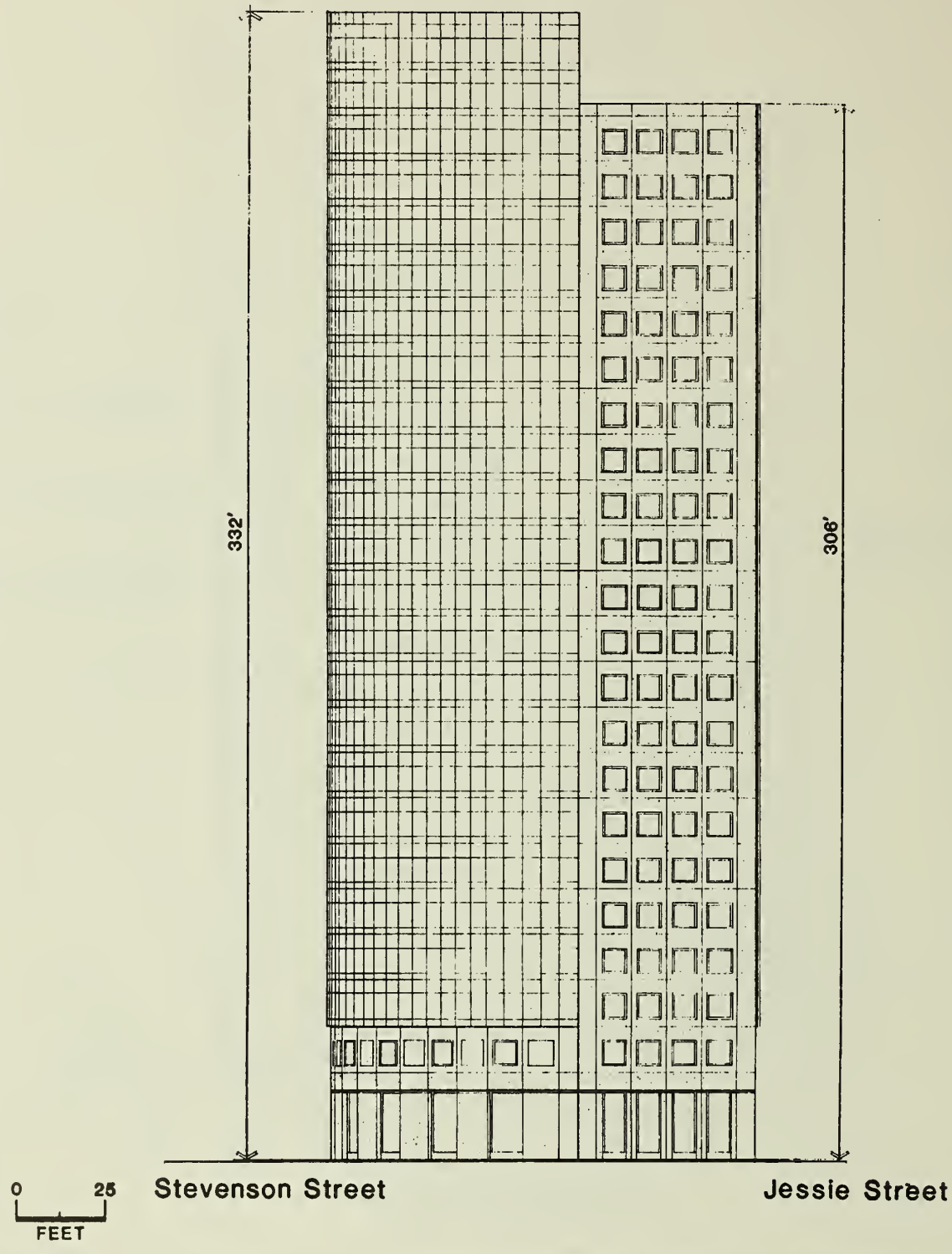
SOURCE: Gensler & Associates, Architects

FIGURE 2: Ground Floor Plan



SOURCE: Gensler & Associates, Architects

FIGURE 3: Northwest Elevation



SOURCE: Gensler & Associates, Architects

FIGURE 4: Southwest Elevation

SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS

Potential environmental issues include: relationship of the project to the Comprehensive Plan; historical and cultural effects (the project would require the demolition of "B" and "C" rated buildings); tenant relocation for the Stevenson Street Garage; view obstruction; shadow effects (the project would increase shadows on the Chevron Garden Plaza); vehicle circulation and parking, and effects on existing vehicula and transit systems; construction noise and vibrations (piledriving would be required); glass panels falling from the project onto the street as a result of seismic activity; building evacuation procedures in the event of an emergency; dewatering and its possible effects on surrounding buildings; and increased demand for housing attributable to the project. The project would contribute to effects from cumulative development in the project vicinity in the categories of traffic, noise, air quality, energy consumption and growth induction. These issues will be covered further in an Environmental Impact Report (EIR) for the project.

Potential environmental issues of the proposed project that were determined to be insignificant, and therefore will not be addressed in the EIR for the project, are described below.

Land Use Compatibility: The project would be similar to existing and proposed land uses in the vicinity of the site.

Glare: The project would contain no reflective glass or high-intensity lighting.

Operational Noise: After completion, the project would not increase noise levels perceptibly in the project vicinity.

Construction-Related Air Quality: Construction of the project would have short-term effects on air quality in the project vicinity. Measures included in the project would partially mitigate these effects.

Utilities and Public Services: The increased demand for public services and utilities attributible to the project would not require additional personnel or equipment.

Biology: The project would have no direct effect on plants or animals as the site is presently covered by buildings.

Land: Appropriate construction measures included in the project would mitigate any potentially hazardous geologic or soil conditions on the site.

Hazards: The project would not increase the risk of explosion or release of hazardous substances or create a potential health hazard.

ENVIRONMENTAL EVALUATION CHECKLIST

A. GENERAL CONSIDERATIONS

	Yes	Maybe	No	N/A	Disc.
1. Would the project conflict with objectives and policies in the Comprehensive Plan (Master Plan) of the City?	___	X	___	___	X
2. Would the project require a variance, or other special authorization under the City Planning Code?	X	___	___	___	X
3. Would the project require approval of permits from City Departments other than DCP or BBI, or from Regional, State or Federal Agencies?	___	___	X	___	___
4. Would the project conflict with adopted environmental plans and goals?	___	___	X	___	___

The project would respond to Objective 1; Policy 1, Objective 6; Policies 1 and 2, and Objective; 7, Policies 2 and 3 of the Commerce and Industry Element of the Comprehensive Plan by providing office and retail space and employment in the downtown core of San Francisco on a site that is close to local and regional transit lines and facilities.

The project would require the demolition of the 64 Jessie Street warehouse, given a "B" rating by the Foundation for San Francisco's Architectural Heritage Survey, and the 71 Stevenson Street parking garage, given a "C" rating by the Heritage Survey, and thus would not respond to Objective 2;

Policy 4 of the Urban Design Element, which seeks to "preserve notable landmarks and areas of historic, architectural or aesthetic value...".

The project would provide new parking in the downtown control area, and thus would not respond to Objective 1; Policies 3 and 4 of the Downtown Transportation Plan of the Transportation Element. The project would replace a 290-car parking garage with 35 parking spaces, an overall reduction of 255 parking spaces.

The relationship of the project to the Comprehensive Plan will be assessed in an Environmental Impact Report (EIR).

The project would comply with the pertinent provisions of the City Planning Code including the 14:1 Floor Area Ratio (FAR) (the project would have a total floor area of 345,940 net square feet which would be equal to the maximum FAR allowable in the district); the 700-I height and related bulk limits (the project would be 332 feet high, 368 feet below the maximum height permitted in the district); uses permitted in the C-3-O Zoning District (the project would include office and retail uses, parking and loading facilities; additionally, up to 197 housing units would be permitted). The project would require Discretionary Review by the City Planning Commission's Resolution 8474.

B. ENVIRONMENTAL IMPACTS:

1. Land Use. Would the proposed project:	Yes	Maybe	No	N/A	Disc.
a. Be different from surrounding land uses?	___	___	X	___	X
b. Disrupt or divide the physical arrangement of an established community?	___	___	X	___	X

The project site is located in the Downtown Financial District and is surrounded by office buildings with ground floor retail space, commercial buildings, educational and related uses, parking lots and warehouses. North across Stevenson Street from the site are the 22- and 44-story Standard Oil (Chevron) towers and sunken garden/plaza. Other newer buildings include a highrise office building at 525 Market Street and another office tower at

595 Market Street. Golden Gate University and related buildings are located on Mission Street south of the site. The Ecker Square building (about 19 stories) with ground-level plaza is under construction east of the site. Older nearby structures are three to eight stories in height and generally built to lot lines. The project site contains a two-story parking garage at 71 Stevenson Street and a five-story vacant warehouse building at 64 Jessie Street.

2. Visual Quality and Urban Design. Would the proposed project:	Yes	Maybe	No	N/A	Disc.
a. Obstruct or degrade any scenic view or vista open to the public?	___	___	X	___	X
b. Reduce or obstruct views from adjacent or nearby buildings?	X	___	___	___	X
c. Create a negative aesthetic effect?	___	X	___	___	X
d. Generate light or glare affecting other properties?	___	___	X	___	X

The building would not obstruct any scenic views or vistas now available to the public. Most views from nearby buildings would not be affected because of existing and approved taller developments, but some views from the south side of the Standard Oil buildings would be obstructed below the 22nd floor. View obstruction will be assessed in an Environmental Impact Report.

The project would require the demolition of the warehouse at 64 Jessie Street, rated "B" by the Foundation for San Francisco's Architectural Heritage Survey, and the parking garage at 71 Stevenson Street, rated "C" by the Heritage Survey; neither building was included in the Department of City Planning's Architectural Resource Inventory. The building would increase the amount of shadow cast on the Chevron Garden Plaza located north of the project across Stevenson Street and might increase the amount of shadow cast on the Tishman Building Plaza located northeast of the project across Stevenson Street. Further discussion and graphics relevant to the appearance of the project will appear in an EIR.

The project would contain no reflective glass or high-intensity lighting and hence would not impose reflective or glaring light on other properties.

3. Population/Employment/Housing. Would the proposed project:	Yes	Maybe	No	N/A	Disc.
a. Alter the density of the area population?	X				X
b. Have a growth-inducing effect?	X				X
c. Require relocation of housing or businesses, with a displacement of people, in order to clear the site?	X				X
d. Create or eliminate jobs during construction, operation, and maintenance of the project?	X				X
e. Create an additional demand for housing in San Francisco?	X				X

The project would increase the number of daily employees on the site from between four and five to approximately 1320. Direct and indirect growth-inducing effects would result from the higher level of employment on the project site and the subsequent need for housing and various support services. Three to four employees would be displaced from the garage at 71 Stevenson Street. One employee would be displaced from the warehouse at 64 Jessie Street. Relocation measures have not been determined. During construction a total of about 125 person-years of employment would be created, with an average of 77 workers employed at any time. Under the current housing formula used by the Department of City Planning, the project would be expected to generate a demand for approximately 265 housing units in San Francisco./1/ The cumulative effects of growth inducement (including housing demand and direct and indirect employment generated) will be assessed in the Environmental Impact Report.

NOTES - Population/Employment/Housing

/1/ Dean Macris, Department of City Planning, Memorandum dated July 20, 1981. The formula is as follows: $\frac{302,000}{250} \times .22 = 265$

4. Transportation/Circulation. Would the construction or operation of the project result in:	Yes	Maybe	No	N/A	Disc.
a. Change in use of existing transportation systems (transit, roadways, pedestrian ways, etc.)?	X				X
b. An increase in traffic which is substantial in relation to existing loads and street capacity?		X			X
c. Effects on existing parking facilities, or demand for new parking?	X				X
d. Alteration to current patterns of circulation or movement of people and/or goods?	X				X
e. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?			X		X
f. A need for maintenance or improvement or change in configuration of existing public roads or facilities?		X			X
g. Construction of new public roads?			X		

The project would result in an increased use of existing transportation systems: both freeways, bridges and local streets and the transit systems which serve Downtown San Francisco. The project would generate a parking demand that would be met partially by on-site parking. The EIR will contain an analysis that would include projections of the number of passenger and freight vehicle trips generated by the proposed project, the impacts of such traffic on streets, bridges, freeways and intersections, a projection of parking and loading needs (including effects of the removal of the existing parking garage), the effects of the project on pedestrian movements in the project vicinity, and the project impacts and cumulative impacts on the local Muni transit routes and on regional systems.

The project could require improvements to fronting streets and alleys because of increased pedestrian use. The project would require no change in the present pattern of circulation nor in the configuration of existing public streets.

5. Noise.	Yes	Maybe			
a. Would the proposed project result in generation of noise levels in excess of those currently existing in the area?	X	____	___	___	X
b. Would existing noise levels impact the proposed use?	___	____	X	___	X
c. Are Title 25 Noise Insulation Standards applicable?	___	____	X	___	____

Construction activities, particularly piledriving, would temporarily increase noise levels in the project vicinity; piledriving would also cause vibrations. Noise and vibration effects of construction activities, including possible concurrent construction activities from Central Plaza, 562 Mission Street and the project, will be analyzed in the Environmental Impact Report.

Noise levels in the area would not be expected to exceed currently existing levels as a result of project operation. Mechanical equipment noise is regulated by the San Francisco Noise Ordinance, (Part II, Chapter VII, San Francisco Municipal Code), Section 2909, "Fixed Source Noise Levels", with which the project sponsors are required to comply. In the C-3-O District, the ordinance restricts equipment noise levels at the property line to 70 dBA betweeen 7 a.m. and 10 p.m., and 60 dBA between 10 p.m. and 7 a.m. As 24-hour equipment noise levels would be limited to 60 dBA to meet the nighttime limit, they would not be perceptible within the sound-level context of the project. Further discussion will not be included in the EIR.

Traffic generated by the project during any hour of the day would cause traffic noise to increase by less than 1 dBA; a 1 dBA increase in environmental noise is undectable by the untrained human ear./1/ Increased noise levels would be generally imperceptible because of existing noise levels on First, Market, and Mission Streets. Noise levels generated by traffic from cumulative development in the project vicinity will be analyzed in the EIR.

The Environmental Protection Element of the Comprehensive Plan indicates an existing day-night average noise level (Ldn) of 70 dBA for First Street and for Market Street east of First Street, and 75 dBA for Mission Street and

Market Street west of First Street. For office use the guidelines recommend no special noise control measures in an exterior noise environment up to an Ldn of 70 dBA. The exterior noise levels at the site are estimated to be 70 to 75 dBA. For these noise levels, the guidelines require an analysis of noise reduction requirements and inclusion of noise insulation features in building design. As this will be done by the project sponsor, no further analysis will be included in the EIR.

NOTES - Noise

/1/ This conclusion is based on the findings of the Five Fremont Center Final EIR, EE 80.268, certified March 12, 1981, page 119. Five Fremont is a larger project than the 71 Stevenson Street project, and the number of parking spaces is greater than for the proposed project. Noise from traffic generated by the Five Fremont project was projected to cause a less than 1 dBA increase.

6. Air Quality/Climate. Would the proposed project result in:	Yes	Maybe	No	N/A	Disc.
a. Violation of any ambient quality standard or contribution to an existing air quality violation?	___	X	___	___	X
b. Exposure of sensitive receptors to air pollutants?	___	X	___	___	X
c. Creation of objectionable odors?	___	___	X	___	___
d. Burning of any materials including brush, trees, or construction materials?	___	___	X	___	___
e. Alteration of wind, moisture, or temperature (including sun shading effects), or any change in climate, either locally or regionally?	___	X	___	___	X

Concentrations of carbon monoxide, hydrocarbons and nitrogen oxides would increase as a result of increased project-related traffic. Individually, these incremental changes in air pollution in the region would be insignificant; cumulatively, developments such as this could increase reported concentrations and the frequency of standard violations. Cumulative air quality issues will be assessed in the EIR.

The project would result in new shadows on the Chevron Garden Plaza and possibly the Tishman Building Plaza. Shadow effects of the project will be analyzed in the EIR.

There are no significant sensitive receptors, such as hospitals, within a mile of the area. Possible sensitive receptors in the area would be individuals with respiratory problems passing through the area, people working in the area or students attending classes at Golden Gate University (located southeast of the project).

Construction activities would cause temporary excesses in the project vicinity of the California standard of 100 micrograms per cubic meter for suspended particulates (dust), the principal air pollutant of construction activities. Except to persons with respiratory problems, large-size particulates are more a nuisance than a hazard, and settle out of the atmosphere rapidly with increasing distance from the source. This is in contrast to gaseous pollutants and to small-size particulates from combustion and earthmoving. Diesel-powered construction equipment would emit, in decreasing order by weight, nitrogen oxides, carbon monoxide, sulfur oxides, hydrocarbons, and particulates. This would increase local concentrations temporarily but would not be expected to increase the frequency of violations of air quality standards. As the project sponsor would agree to include measures in the project that would partially mitigate these effects, construction-related air quality will not be discussed in the EIR.

The project would have minimal effect on wind conditions at ground level. The project is located behind much taller buildings (595 Market Street and the Standard Oil buildings at 573 - 575 Market Street) and would receive protection from northwesterly and westerly winds. Due to its location, the project would provide wind shelter to the Chevron Garden Plaza, blocking northwesterly winds and, consequently, reducing wind speeds in the plaza. Additionally, the project would provide wind shelter to pedestrian areas along Jessie Street. Because of the project's sheltered location, there is no need for mitigation of wind impacts. The project design would reduce wind impacts at ground level. The curved west-corner of the building would render it more "streamlined" to westerly winds thereby reducing accelerations at ground

level. Thus, the project does not appear to have the potential to create strong wind accelerations at ground level, and wind tunnel tests would not be needed./1/

NOTES - Air Quality/Climate

/1/ Based on a summary of a qualitative wind analysis performed on the site and for the project by Donald Ballanti, a certified meteorologist, on November 13, 1981. A copy of the analysis is on file at the Department of City Planning's Office of Environmental Review.

7. Utilities and Public Services. Would the proposed project:	Yes	Maybe	No	N/A	Disc.
a. Have an effect upon, or result in a need for, new or altered governmental services in any of the following?					
fire protection	—	—	X	—	X
police protection	—	—	X	—	X
schools	—	—	X	—	X
parks or other recreational facilities	—	—	X	—	X
maintenance of public facilities	—	—	X	—	X
power or natural gas	—	—	X	—	X
communications systems	—	—	X	—	X
water	—	—	X	—	X
sewer/storm water drainage	—	—	X	—	X
solid waste collection and disposal	—	—	X	—	X

The project by itself would not cause a need for development of new services; however, cumulative downtown development could result in a need for new or altered services.

The project would incorporate more extensive fire protection measures than the existing older buildings on the site because of more stringent code standards now in effect. The project would increase the building area and the number of persons using the site. The project would not result in the need for additional Fire Department equipment or personnel except in the cumulative sense, in the event of a major fire or disaster. The existing fire pressures and flow are adequate to serve the proposed project./1/

New highrise buildings are required to conform with the Life Safety provisions of the San Francisco Building Code. The Code requires that all new highrise

buildings be equipped with automatic fire sprinklers throughout, as well as with a fire alarm system, emergency power and special elevator controls. Automatic sprinklers are effective in extinguishing flames before they spread throughout the building and, consequently, the chances of fire spreading from building to building is remote. Thus, replacing older, more vulnerable low occupancy buildings, with higher quality, greater occupancy highrise buildings probably has no measurable effect on the need for fire protection./2/

The project site is within the Southern Police District. The Southern Station is located in the Hall of Justice at 850 Bryant Street. The site area is patrolled by radio-dispatched patrol cars 24 hours a day. Foot beats are assigned to Market Street west of the site but not directly in front of the site. The proposed project would increase the daytime population and the amount of property on the site, thus increasing the potential for crime. The Police Department indicates that the project would not result in the need for additional personnel or equipment. If statistics later indicated such a need, additional personnel would be assigned to the site area./3/

The project would not affect area schools. San Francisco public schools have experienced a reduction in school enrollment over the past several years and could accommodate any increase in school-age children from the housing which would be required as a condition of project approval./4/

The project would generate a demand for urban recreational facilities such as plazas and urban parks. The project would include a landscaped plaza which would connect with a retail arcade providing pedestrian access from Jessie Street to Stevenson Street. The Chevron Garden Plaza is located north of the project site (although it is not currently open to the public); and the Tishman Building Plaza is located northeast of the project site. In addition, landscaped plazas are included in the proposed Central Plaza project and the recently approved Five Fremont Center east of the project site.

The project would have no direct effect on the maintenance of public facilities.

The project would result in a net increase in consumption of energy; it would conform to California energy standards for nonresidential buildings. The project would probably be served by power lines and gas mains under Second Street. No capacity or supply problems exist./5/

The project would result in increased use of communication systems. No supply or capacity problems exist./6/

The project would generate an average demand for about 39,000 gallons per day (gpd) of water./7/ The site is served by two eight-inch mains, one under Jessie Street and another under Stevenson Street. There would be no supply or capacity problems./8/ Existing sewer lines could accommodate wastewater generated by the project. Because of increasing high-rise development occurring south of Market Street, the Bureau of Sanitary Engineering of the Public Works Department has undertaken a study to determine if the five-year storm capacity of the wastewater collection and treatment system would be reduced by new high-rise developments. It is not known when this study will be available./9/

The project would generate a net increase of about 1.5 tons of solid waste per day./10/ A trash compactor would be provided. Collection would not be a problem and would probably occur daily./11/ Disposal effects would depend on the eventual selection of a disposal method and/or site for San Francisco's solid wastes./12/

NOTES - Utilities and Public Services

/1/ Chief Joseph Sullivan, Support Services, San Francisco Fire Department, letter communication, October 29, 1981.

/2/ Bendix Environmental Research, Inc. Environmental Consultants and Fire Protection Engineers. Information contained in this section was confirmed by Emmet D. Condon, Deputy Chief, San Francisco Fire Department, September 24, 1981.

/3/ Sergeant Paul Libert, Planning and Research Division, San Francisco Police Department, telephone communication, October 23, 1981 and letter communication December 21, 1981.

/4/ San Francisco Unified School District, Proposal for Leasing and Selling Vacant Property, April 29, 1980, pp. 28 and 29.

/5/ George Pavana, Pacific Gas and Electric, telephone communication, October 23, 1981.

/6/ Skip Simpson, Facilities Engineer, Pacific Telephone Company, telephone communication, October 23, 1981.

/7/ Yerba Buena Center Final EIR, Appendices, EE77-220, certified April 25, 1978, p. 49. The calculation was based on a water consumption rate of 125 gallons per 1,000 sq. ft. per day.

/8/ Harlow Swain, Senior District Water Serviceman, Engineering Department, San Francisco Water Department, telephone communication, October 23, 1981.

/9/ Mervyn Francies, Engineering Associate II, Bureau of Sanitary Engineering, telephone communication, October 23, 1981.

/10/ Solid Waste Management Board Solid Waste Generation Factors in California, Bulletin No. 2, July 8, 1974. The amount of solid waste generated was based on a rate of 1 lb. per 100 sq. ft. per day.

/11/ Fiore Garbarino, Office Manager and Treasurer, Golden Gate Disposal Company, telephone communication, November 9, 1981.

/12/ Several new landfill sites are currently under consideration by the Board of Supervisors in addition to establishing a comprehensive recycling program and the possibility of constructing a waste-to-energy plant. Roger Boas, Chief Administrative Officer, Memorandum dated February 24, 1981.

	Yes	Maybe	No	N/A	Disc.
8. Biology.					
a. Would there be a reduction in plant and/or animal habitat or interference with the movement of migratory fish or wildlife species?	___	_____	X	___	____
b. Would the project affect the existence or habitat of any rare, endangered or unique species located on or near the site?	___	_____	X	___	____
c. Would the project require removal of mature scenic trees?	___	_____	X	___	____
9. Land (Topography, Soils, Geology). Would proposed project result in or be subject to:					
a. Potentially hazardous geologic or soil conditions on or immediately adjoining the site (slides, subsidence, erosion, and liquefaction)?	X	_____	___	___	X
b. Grading (consider height, steepness, and visibility of proposed slopes; consider effect of grading on trees and ridge tops)?	___	_____	X	___	____

	Yes	Maybe	No	N/A	Disc.
c. Generation of substantial spoils during site preparation, grading, dredging or fill?	___	X	___	___	X

The site is in an area classified as a special geologic study area by the Community Safety Element of the Comprehensive Plan because of potential ground failure hazards. Under Policy 4 of the Community Safety Plan, the project sponsor would be required to conduct a geologic and soil engineering site investigation and comply with any compensating structural design recommendations based on the investigation's findings. During construction, the project sponsor would be required to comply with the San Francisco Building Code and the Excavation Standards of the California Occupational Safety and Health Agency. Section 2903.4 of the Building Code specifies that "The foundation type for any building or structure shall be selected with due consideration given to subsurface conditions and requirements for the structural behavior." Additionally, the structural design of the building would be required to meet the minimum safety requirements for lateral seismic forces (San Francisco Building Code, Section 2313 and Section 2314.D.1). As this will be done by the project sponsor, no further analysis in needed in the EIR.

The effects of seismic activity on the glass panels contained in the curtain wall of the building is not known at this time and will be analyzed in the EIR.

The two existing buildings on the site have basements graded to property lines: the warehouse at 64 Jessie Street has a two and one-half foot depth basement, and the basement of the parking garage at 71 Stevenson Street ranges in depth from four feet-one inch at the Stevenson Street side to two feet-four inches at the Jessie Street side. The project design specifies a twelve and one-half foot basement which would extend a maximum of eight feet-five inches below the basement levels of the two existing buildings. This would result in the generation of about 77,600 cubic feet of soil and debris during excavation. Demolition of the two buildings on the site would result in spoils of concrete, masonry and other used building materials which would be disposed of in an approved disposal site.

10. Water. Would the proposed project result in:	Yes	Maybe	No	N/A	Disc.
a. Reduction in the quality of surface water?			X		
b. Change in runoff or alteration to drainage patterns?			X		
c. Change in water use?	X				
d. Change in quality of public water supply or in quality or quantity (dewatering) of ground water?	X				X

Dewatering would be required during construction. The effects of dewatering on surrounding buildings are not known at this time and will be analyzed in the EIR.

11. Energy/Natural Resources. Would the proposed project result in:	Yes	Maybe	No	N/A	Disc.
a. Any change in consumption of energy?	X				X
b. Substantial increase in demand on existing energy sources?		X			X
c. An effect on the potential use, extraction, conservation or depletion of a natural resource?			X		X

There would be an increase in energy consumption on the site as a result of the project because of an increase in the total square footage to be served. As a detailed building design has not yet been developed, the extent of energy consumption and the types of conservation measures have not been identified and will be analyzed in the EIR.

The project would conform to energy requirements of Title 24 of the California Administrative Code. There would be an increase in vehicular fuel consumption and an increase in peak-hour electrical demand resulting from elevator use in addition to the peak-hour demand characteristics of other uses in the structure. Other aspects of electrical and natural gas (and/or steam) demand characteristics cannot be determined until more specific building designs are prepared.

No existing active solar energy collection installations would be affected by the project as none are located in the immediate area northerly of the site. No other natural energy resources would be directly affected. The project itself is not expected to have a significant effect on the extraction, conservation, or depletion of a natural resource.

12. Hazards. Would the proposed project result in:	Yes	Maybe	No	N/A	Disc.
a. Increased risk of explosion or release of hazardous substances (e.g., oil, pesticides, chemicals or radiation), in the event of an accident, or cause other dangers to public health and safety?			X		
b. Creation of or exposure to a potential health hazard?			X		
c. Possible interference with an emergency response plan or emergency evacuation plan?		X			X

Construction of the project would result in greater numbers of people on the site, which could increase the difficulty of evacuation during an emergency. The effects of the project on the emergency response plan will be analyzed in the EIR.

13. Cultural. Would the proposed project:	Yes	Maybe	No	N/A	Disc.
a. Include or affect a historic site, structure, or building?	X				X
b. Include or affect a known archaeological resource or an area of archaeological resource potential?		X			X
c. Cause a physical change affecting unique ethnic or cultural values?			X		

The site contains one "B" rated building, the 64 Jessie Street warehouse building, identified in the Heritage Survey (Splendid Survivors, 1979, Foundation for San Francisco's Architectural Heritage), and one "C" rated building, the 71 Stevenson Street parking garage. The project would result in

the demolition of these two structures. Historic buildings will be analyzed in the EIR.

The site is situated west of the historic shoreline and was originally part of an extensive outcrop of sand dunes. No archaeological resources (shell mounds) of prehistoric age are known to exist on or near the project site; however, the possibility for finds does exist. During the 1850's and 1860's the sand dunes were leveled to accommodate new development. In 1850 a residential community, known as Happy Valley, was established near First and Mission Streets. Cultural materials from these early buildings may be present (unless basement excavations for later buildings obliterated or dispensed such remains)./1/ If any artifacts were to be discovered during site excavation, the project sponsor has agreed to the mitigation measure on page 26 for their protection.

NOTES - Cultural

/1/ Olmsted, Roger R., Yerba Buena Center Report on Historical Cultural Resources, San Francisco Redevelopment Agency, August 1979.

C. MITIGATION MEASURES

	Yes	No	Disc.
Are mitigation measures included in the project?	X	___	X
Are other mitigation measures available?	X	___	___

Mitigation measures included as part of the project at this time are described below.

INCLUDED IN THE PROJECT

URBAN DESIGN

- To enhance the pedestrian environment, the project would provide a landscaped plaza and retail arcade that would facilitate pedestrian access through the project site (no pedestrian amenities currently exist on the project site).

- The top of the building would have a step-down configuration in accordance with Guiding Downtown Development; the curved form of the building would permit more sunlight on the Chevron Garden Plaza than would a rectangular building form.

TRANSPORTATION/CIRCULATION

- The project sponsor has agreed to contribute funds for maintaining and augmenting transportation service, in an amount proportionate to demand created by the project, as provided by Board of Supervisors Ordinance Number 224-9 or any subsequent equitable funding mechanism developed by the City.

- The project sponsor would encourage transit use by providing for on-site sale of BART tickets and Muni Passes.

- The project sponsor would encourage a tenant carpool/vanpool system by providing a central clearing house for carpool information.

- The project sponsor would provide secure and safe bicycle parking, handicapped parking and handicapped access facilities relative to the demand generated by project users.

NOISE

- The project sponsor and project contractor would meet with the Bureau of Engineering to determine necessary and feasible measures to reduce noise during the period that piledriving would occur, including the predrilling of holes for piles to the maximum feasible distance to minimize piledriving activity.

- The project contractor would limit piledriving to the hours resulting in the least disturbance to the greatest number of neighboring uses.

AIR QUALITY/CLIMATE

- During excavation, unpaved demolition and construction areas would be wetted twice a day to hold down dust; if this were done at least twice a day with complete coverage, particulate emissions (dust) would be reduced about 50 percent.

- The general contractor would use water-based or latex paint on all interior drywalls painted rather than oil-based paints which emit hydrocarbons while drying. This would reduce hydrocarbons from drying paint by about 60 percent.

- The general contractor would maintain and operate construction equipment so as to minimize exhaust emissions.

- During construction, drivers of trucks in loading or unloading queues would turn off their engines to reduce vehicle emissions.

UTILITIES AND PUBLIC SERVICES

- To reduce the demand on police protection services, the project would incorporate internal security measures which might include such features as a 24-hour staffed guard station in the lobby area, closed circuit television cameras and internal security personnel, and well-lighted entries.

- The project sponsor would provide new project tenants with a fire and earthquake safety orientation program and evacuation plan.

CULTURAL

- The project sponsor would photographically record, according to National Architectural and Engineering Standards, all buildings on the project site rated by Heritage.

- Should evidence of cultural or historic artifacts of significance be found during project excavation, the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board would be notified. The project sponsor would select an archaeologist to help the Office of Environmental Review to determine the significance of the find and whether feasible measures, including appropriate security measures, could be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend specific mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendation and retrieval, if appropriate.

D. ALTERNATIVES:

	Yes	No	Disc.
Were other alternatives considered?	X		X

The following alternatives will be evaluated in the environmental impact report:

1. The No-Project Alternative will assess no change in existing site conditions; the "B" rated warehouse building at 64 Jessie Street and the "C" rated parking garage at 71 Stevenson Street would be retained.

2. The No-Parking Alternative will assess the impact of the proposed project without on-site parking provided; the provision of off-site parking in an appropriate area will be analyzed.

3. The Pre-Interim Controls Alternative will assess an office project with the maximum FAR obtainable using all available floor area bonuses.

4. The Housing Alternative will assess the impacts of providing housing on site through the use of development bonuses recommended in the Department of City Planning Guiding Downtown Development (GDD), May 1981. A balanced mixed-use building would contain housing units equal to the demand that may be created by the project.

5. The Proposed Controls Alternative will assess the impacts of a project which would partially conform to the Department of City Planning's proposals in GDD (shadows would be cast on the Chevron Garden Plaza and possibly the Tishman Building Plaza which would not be responsive to policies of GDD), both with housing and without.

6. The Preservation Alternative will assess the preservation of the "B" rated warehouse building.

E. MANDATORY FINDINGS OF SIGNIFICANCE:

	Yes	No	Disc.
1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal, or eliminate important examples of the major periods of California history or prehistory?	___	X	___
2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	___	X	___
3. Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.)	X	___	___
4. Would the project cause substantial adverse effects on human beings, either directly or indirectly?	___	X	___
5. Is there a serious public controversy concerning the possible environmental effect of the project?	___	X	___

The project would demolish two buildings rated in the Heritage Survey and would contribute to effects from cumulative development on traffic, air quality, noise and energy; these effects will be analyzed in the EIR.

On the basis of this initial evaluation:

____ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

____ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers____, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

__✓__ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Robert W. Passmore
Assistant Director-Implementation

for

Dean Macris
Director

Date: 1/19/82